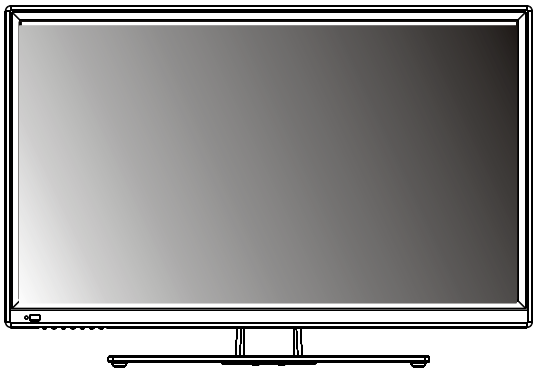
SERVICE MANUAL

6M63N/A/E CHASSIS



Design and specifications are subject to change without prior notice.
(Only Referrence)

SIZE:A5

Description:	SERVICE MANUAL 6M63N	
MODEL.	Brand Name:	
JOB NO.		
Engineering Dept:		
Artwork By:	Date:	2013-07-18
Checked By:	Date:	
Approved By:	Date:	

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Technical Specification

1.Application Area:

This product standard is used for LED 6M63N chassis.

2.Specification:

All the standard are measured under following conditions without other specification.

2.1 Ambient Temperature:20+/-5℃

2.2 Relative Humidity:65+/-10%

2.3 Power Supply Voltage: Standard Input Voltage(100V~240Vac 50/60Hz)

2.4 Adjust after 20 minutes warm-up.

3.Test and check method:

3.1 Capability:According to nation test standard

3.2 Safety:_____ standard

EMC:_____ standard

Technical Specification

4.General Specification

No	Item	Specification	Remark
1.	Receiving and senting method	DTV:ATSC ATV: NTSC-M	
2.	Receive Channel	VHF LOW 2~B VHF HIGH C~W+11 VHF W+12~69	55.25MHz ~ 127.25MHz 133.25MHz ~ 313.25MHz 367.25MHz ~ 801.25MHz DTV: 57-803MHZ
3.	Input Voltage	100-240V ~ 50/60HZ	
4.	Market	North America	
5.	Tuning System	PLL System	
6.	Operating Environment	1) Temp : 0 ~ 40 deg 2)Humidity : 40 ~ 85 %	
7.	Storage Environment	3)Temp : -20 ~ 50 deg 4)Humidity : ~ 90 %	

5.Feature and Function

No	Item	Specification	Remark
1.	CCD	YES	
2.	REMOCON	TOSHIBA CODE	
3.	AV Input	1	
4.	Component input	1	
5.	S-VIDEO	NO	
6.	RGB Input	YES	
7.	2 Carrier Stereo	NO	
8.	BTSC Stereo	YES	
9.	2 Carrier Dual	NO	
10.	NICAM Dual	NO	
11.	SSC (Split Screen) Mode	NO	
12.	MUP (Multi Picture Display) Mode	NO	
13.	Film Mode	NO	
14.	Noise Reduction	YES	
15.	Progressive Scan	YES	
16.	Motion Detection	NO	
17.	Dolby Virtual	NO	
18.	Swivel Speaker	NO	

Technical Specification

6. Safety and Regulation

No	Item	Min	Typ	Max	Unit	Remark
1.	Force Stability – Incline Plane Tip Test		10		deg	
2.	Force Stability – Level Tip Test		100		N	
3.	Isolation Gap, AC-AC/ AC-DC	3			mm	
4.	Isolation Gap	6			mm	
5.	Power Consumption, Max		30		W	For 22" LED
			40		W	For 24" LED
			65		W	For 32" LED
6.	Power Consumption, Stand by			1	W	
7.	Dielectric Voltage	3			kV	
8.	Isolation Resistance	4			MΩ	
9.	Leakage Current		5		mApp	
10.	Power Cord Captivity		40		N	
11.	Flammability – Back Cover		PASS			
12.	Sharp Edge		PASS			
13.	ETL Compliance		NO			
14.	FCC Compliance		NO			
15.	CDRH Radiation Compliance		NO			
16.	CSA Compliance		NO			
17.	CEB Compliance		NO			
18.	CE Compliance		NO			
19.	CB Compliance		NO			

7. Video

No	Item	Min	Typ	Max	Unit	Remark
1.	Linearity Distortion, Vertical		1		%	
2.	Linearity Distortion, Horizontal		1		%	
3.	Trapezoidal Distortion, Vertical		1		%	
4.	Trapezoidal Distortion, Horizontal		1		%	
5.	Over Scan, Vertical	90	93	95	%	
6.	Over Scan, Horizontal	90	93	95	%	
7.	Video Noise Limited Sensitivity(@S/N=30db) VHF			51	dBUV	
8.	Video Noise Limited Sensitivity(@S/N=30db) UHF			54	dBUV	

10.	Selectivity -1.5M	35			dB	
11.	Selectivity +8M	40			dB	
12.	Tuning Range	-0.7			MHz	

8. Chroma

No	Item	Min	Typ	Max	Unit	Remark
1.	White Balance, X axis		280			
2.	White Balance, Y axis		290			
3.	White Balance, Color Temperature	6500	9300	13000	kdeg	13000kdeg(268,273) 9300(281,311) 6500(313,329)
4.	Color Sensitivity		30		dB	
5.	Color Burst Lock-in Range	+/-300			Hz	
6.	Color Killer Sensitivity		30		dBuv	

9. External Interface

No	Item	Min	Typ	Max	Unit	Remark
1.	Video Input Level		1		Vpp	75 OHM
2.	Video Input Frequency Response	4.5			MHz	
3.	Video Input S/N		40		dB	
4.	Audio Input Level		0.5		Vrms	
5.	Audio Input Frequency Response			15	kHz	
6.	Audio Input S/N		40		dB	
7.	Audio Input Distortion		3		%	
8.	Audio Input Dynamic Range			2	V	
9.	Video Output Level		1		Vpp	
10.	Video Output Frequency Response		4.2		MHz	
11.	Video Output S/N		50		dB	
12.	Audio Output Level		0.5		Vrms	
13.	Audio Output Frequency Response	80		12000	Hz	
14.	Audio Output S/N		40		dB	
15.	Audio Output Distortion		3		%	

16.	Video Input Level, R/G/B		0.7		Vpp	
17.	Video Input Level, Component(Y, P_B, P_R)		0.7		Vpp	75 ohm
18.	RGB Input Horizontal Frequency		68		kHz	
19.	RGB Input Frame Rate		60		Hz	

10. The others

No	Item	Min	Typ	Max	Unit	Remark
1.	Search Sensitivity		40		dBuv	
2.	Clock, real time gain or loss (sec per day)		NO		sec	
3.	Soft Ware Functionality Test		YES			
4.	REMOCON Working Sensitivity, Straight		8		m	
5.	REMOCON Working Sensitivity, T/B/L/R		6		m	
6.	Closed Caption Sensitivity		46		dBuv	
7.	Teletext Sensitivity		46		dBm	
8.	Resonance of unit (Sweep freq : 50 ~ 1000)		NO			

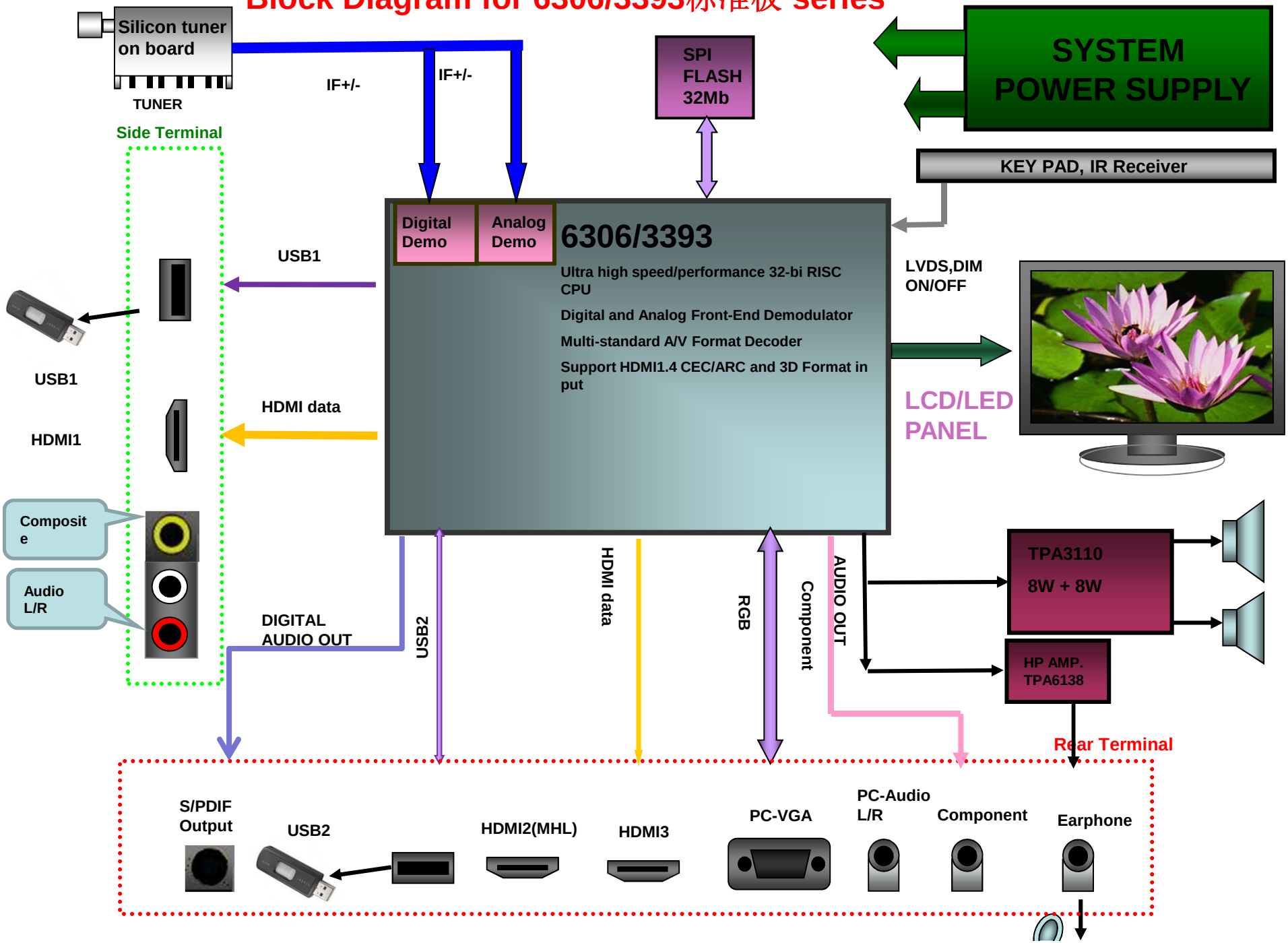
11. Customer Menu Setup (as shipped condition)

No	Item	Specification	Remark
1.	PSM	Standard	
2.	SSM	Standard	
3.	Volume	30	
4.	Mute	Off	
5.	Input Mode	RF	
6.	Customer Menu Language	English	
7.	AVL	Off	
8.	Sleep Timer	Off	
9.	Auto Sleep	Off	
10.	Dynamic backlight	Off	
11.	Surround	Off	
12.	Caption	Off	
13.	Noise Reducer	Off	

12. Reliability

No	Item	Min	Typ	Max	Unit	Remark
1.	ESD			4	kV	IEC-1000-4-2
2.	EFT/Burst			2	kV	IEC-1000-4-4
3.	Surge Immunity			4	kV	IEC-1000-4--5
4.	Voltage Dip Test, 10ms	0	40	70	%	IEC-1000-4-11
5.	Voltage Dip Test, 100ms	0	40	70	%	IEC-1000-4—11
6.	Operation Temperature	0		40	deg	
7.	Operation Humidity	40		85	%	
8.	Storage Temperature	-20		50	deg	
9.	MTBF (Confidence Level : 90 %)		30000		hour	

Block Diagram for 6306/3393标准板 series



IC Block Diagram

U5，U11（3.3V/1A 3-TERMINAL POSITIVE VOL TAGEREGULATOR） LD1117-3.3 SOT-223

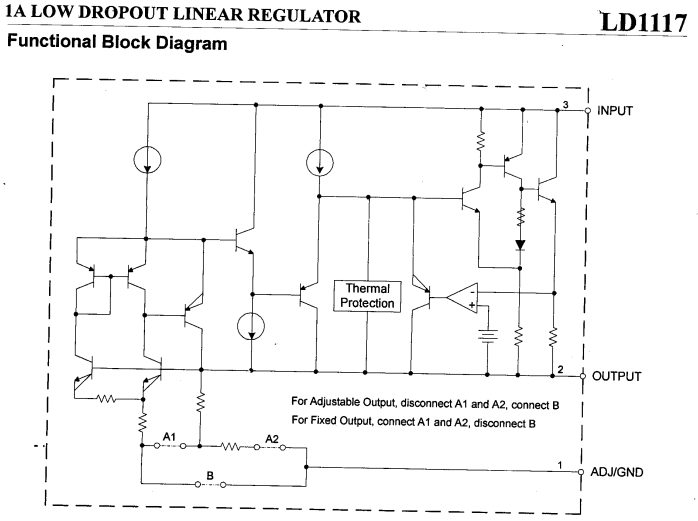
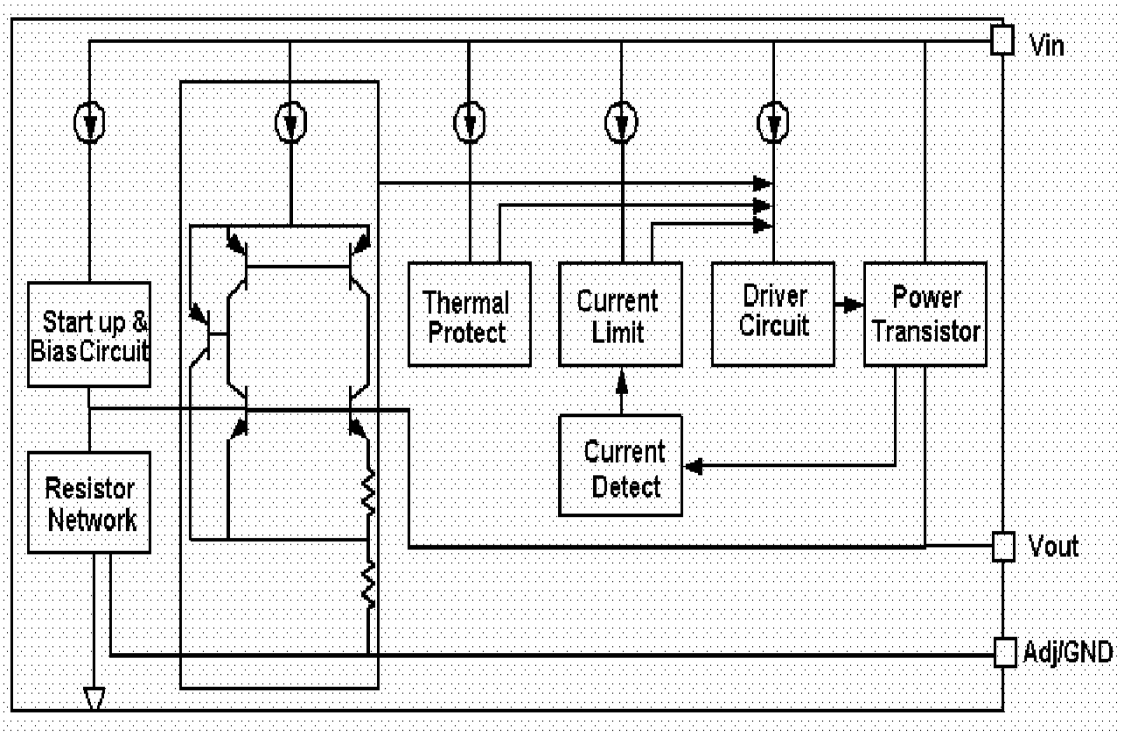
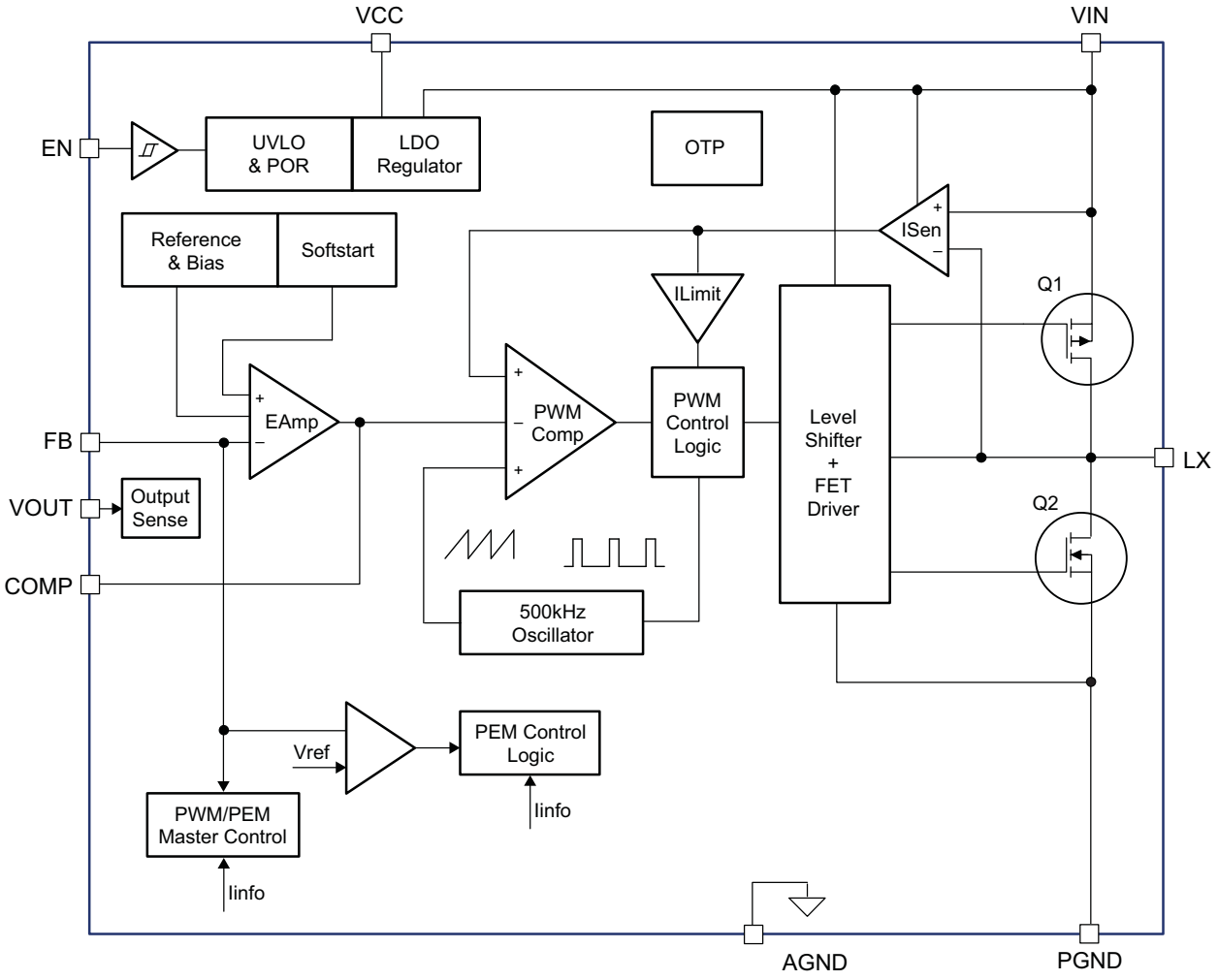


Figure 3. Functional Block Diagram of LD1117

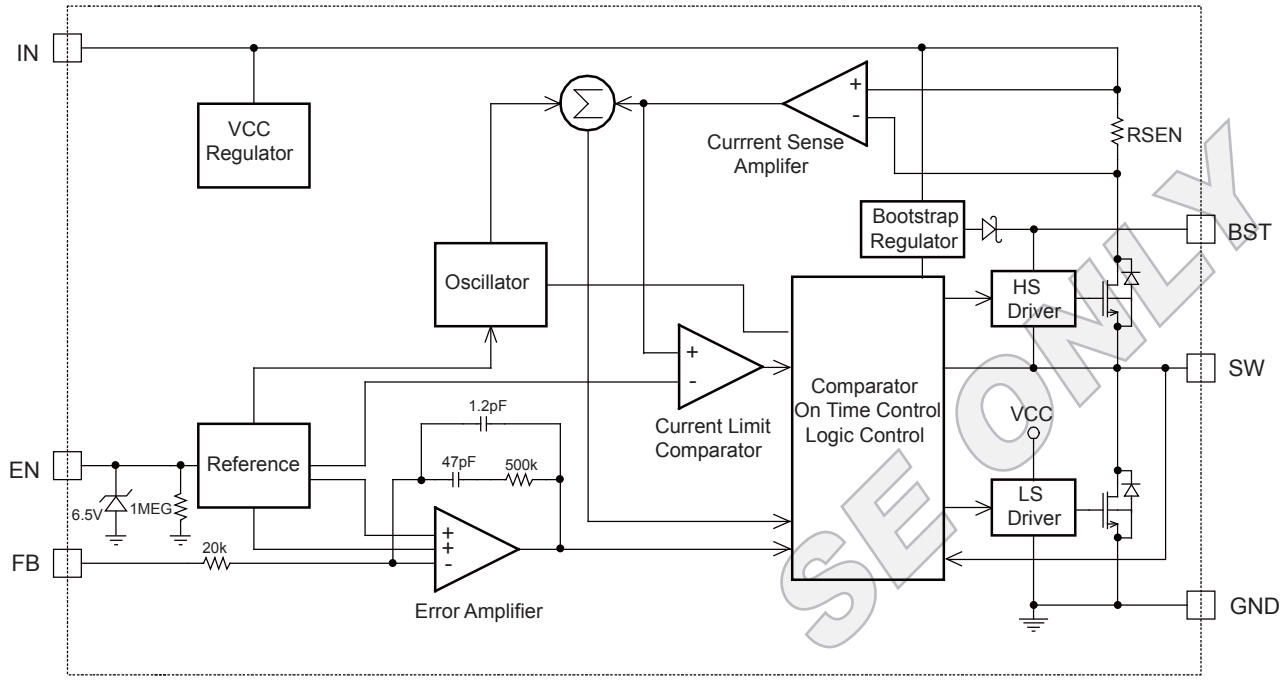
U4(1.8V/1A SOT-252) AS1117-ADJ



U1 (SYNCHRONOUS BUCK REGULATOR) AOZ3015



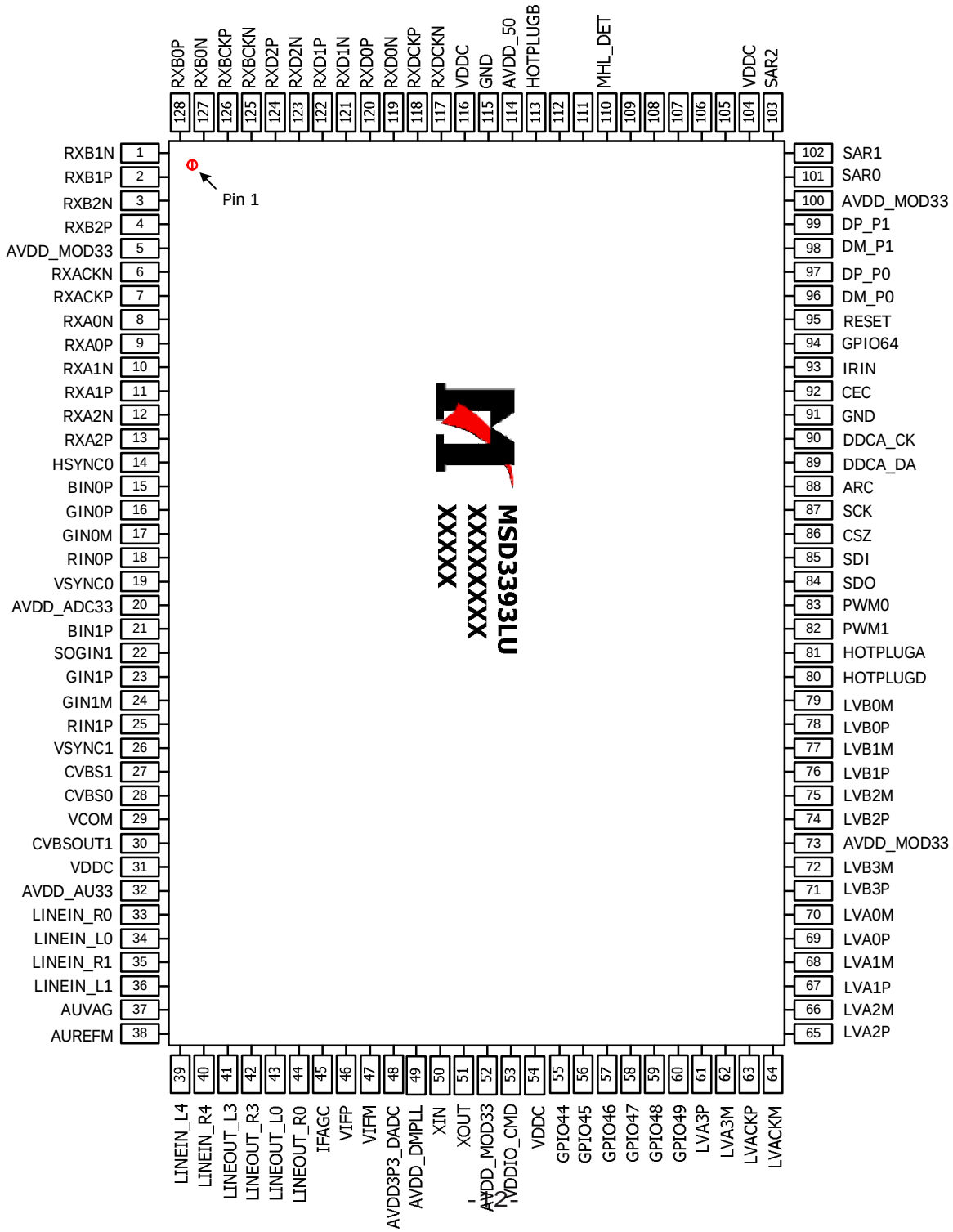
U3 (SYNCHRONOUS BUCK REGULATOR) MP1470



SE ONLY

IC Block Diagram

U6(ATSC DIGITAL TV SYSTEM-ON-CHIP) MSD3393LU

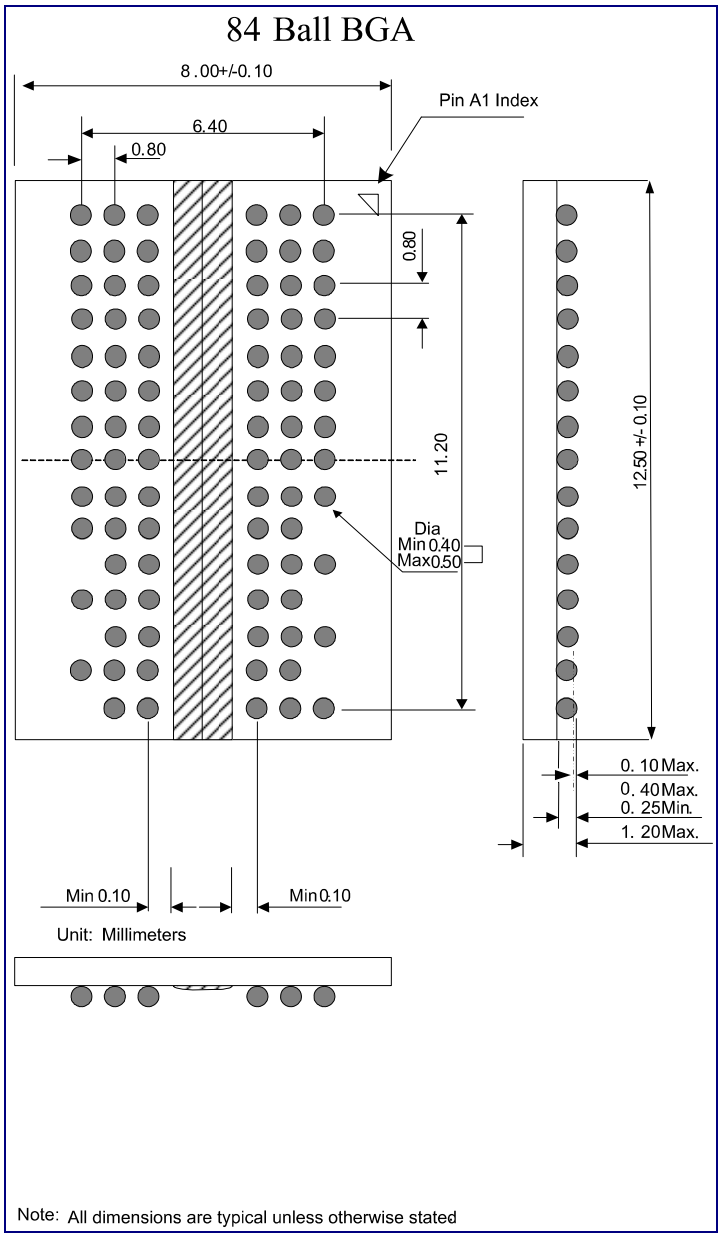


IC Block Diagram

U300(512MB DDR2-1066 SDRAM) NT5TU32M16DG

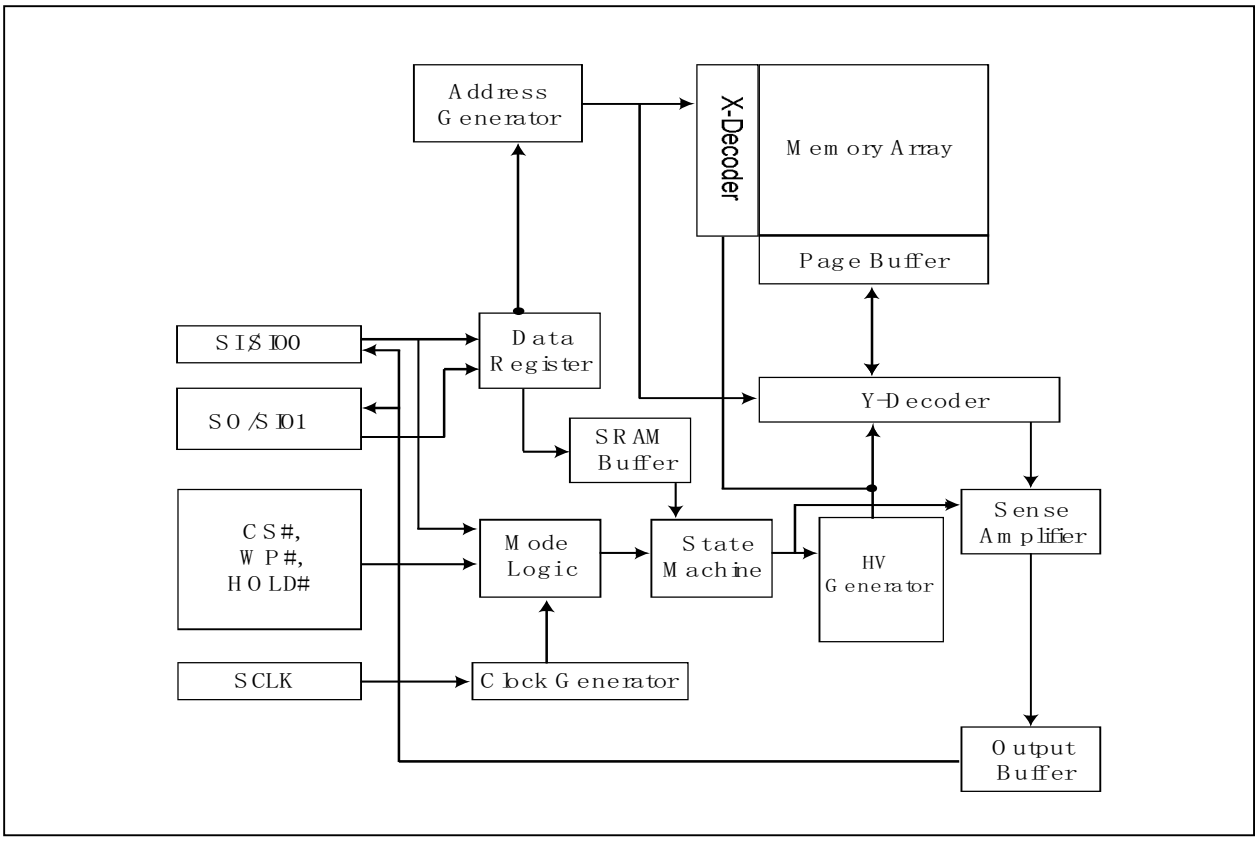
Package Dimensions

(X16; 84 balls; BGA Package)



IC Block Diagram

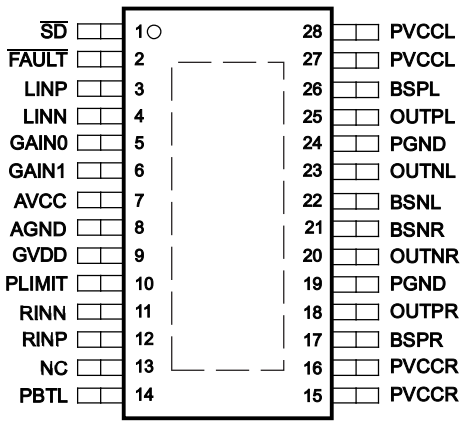
U103(32M BIT CMOS SERIAL FLASH)SOP8



IC Block Diagram

U12(15W STEREO AUDIO POWER AMPLIFIER) TPA3110

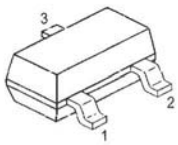
PWP (TSSOP) PACKAGE
(TOP VIEW)



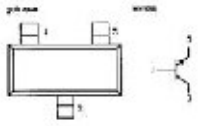
PIN FUN TI

PIN NAME	Pin Number	I/O/P	DESCRIPTION
$\overline{SD}$	1	I	Shutdown logic input for audio amp (LOW = outputs Hi-Z, HIGH = outputs enabled). TTL logic levels with compliance to AVCC.
$\overline{FAULT}$	2	O	Open drain output used to display short circuit or dc detect fault status. Voltage compliant to AVCC. Short circuit faults can be set to auto-recovery by connecting $\overline{FAULT}$ pin to $\overline{SD}$ pin. Otherwise, both short circuit faults and dc detect faults must be reset by cycling PVCC.
LINP	3	I	Positive audio input for left channel. Biased at 3V.
LINN	4	I	Negative audio input for left channel. Biased at 3V.
GAIN0	5	I	Gain select least significant bit. TTL logic levels with compliance to AVCC.
GAIN1	6	I	Gain select most significant bit. TTL logic levels with compliance to AVCC.
AVCC	7	P	Analog supply
AGND	8		Analog signal ground. Connect to the thermal pad.
GVDD	9	O	High-side FET gate drive supply. Nominal voltage is 7V. Also should be used as supply for PLIMIT function
PLIMIT	10	I	Power limit level adjust. Connect a resistor divider from GVDD to GND to set power limit. Connect directly to GVDD for no power limit.
RINN	11	I	Negative audio input for right channel. Biased at 3V.
RINP	12	I	Positive audio input for right channel. Biased at 3V.
NC	13		Not connected
PBTL	14	I	Parallel BTL mode switch
PVCCR	15	P	Power supply for right channel H-bridge. Right channel and left channel power supply inputs are connect internally.
PVCCR	16	P	Power supply for right channel H-bridge. Right channel and left channel power supply inputs are connect internally.
BSPR	17	I	Bootstrap I/O for right channel, positive high-side FET.
OUTPR	18	O	Class-D H-bridge positive output for right channel.
PGND	19		Power ground for the H-bridges.
OUTNR	20	O	Class-D H-bridge negative output for right channel.
BSNR	21	I	Bootstrap I/O for right channel, negative high-side FET.
BSNL	22	I	Bootstrap I/O for left channel, negative high-side FET.
OUTNL	23	O	Class-D H-bridge negative output for left channel.
PGND	24		Power ground for the H-bridges.
OUTPL	25	O	Class-D H-bridge positive output for left channel.
BSPL	26	I	Bootstrap I/O for left channel, positive high-side FET.
PVCCL	27	P	Power supply for left channel H-bridge. Right channel and left channel power supply inputs are connect internally.
PVCCL	28	P	Power supply for left channel H-bridge. Right channel and left channel power supply inputs are connect internally.

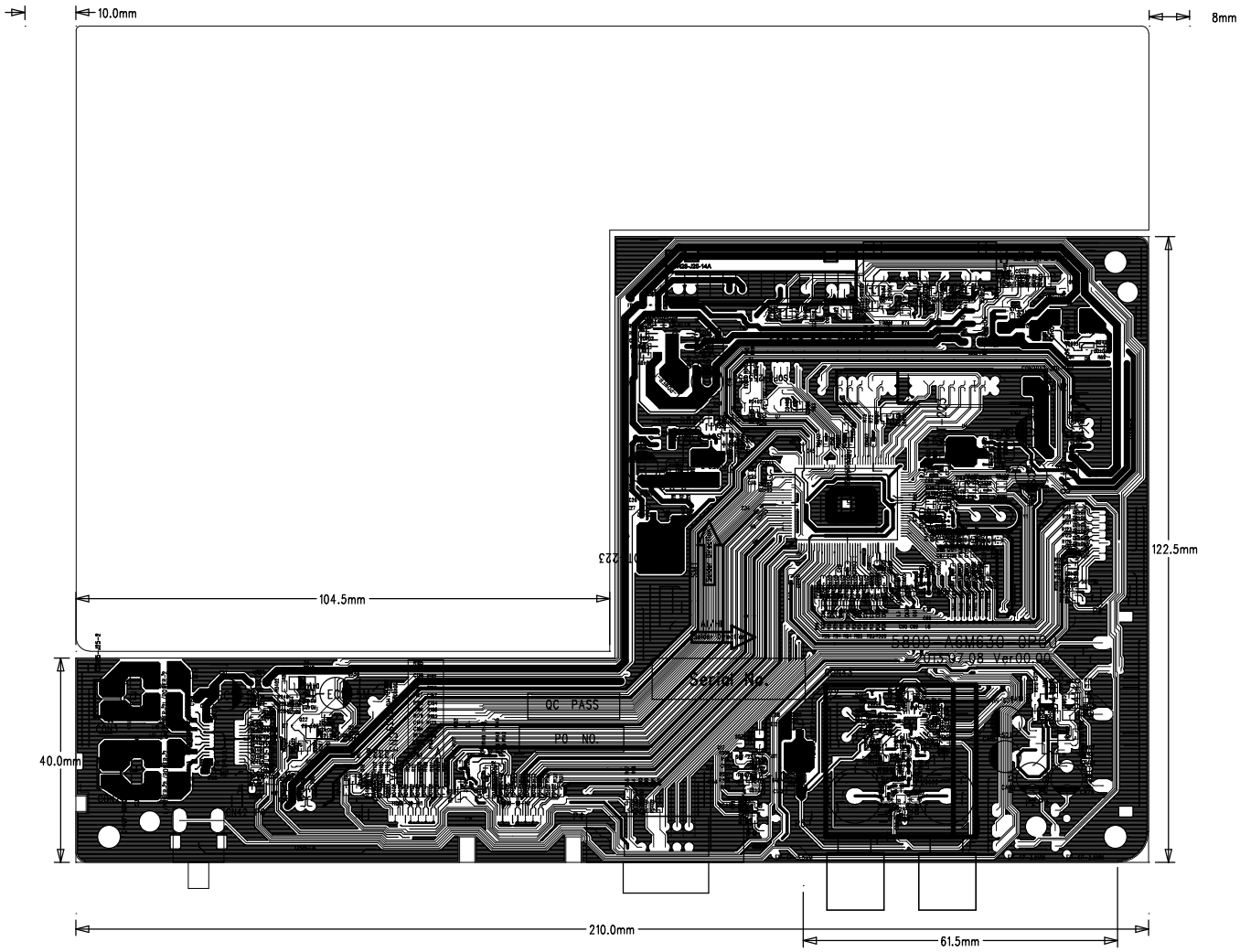
Transistor Mark



SMBT3906

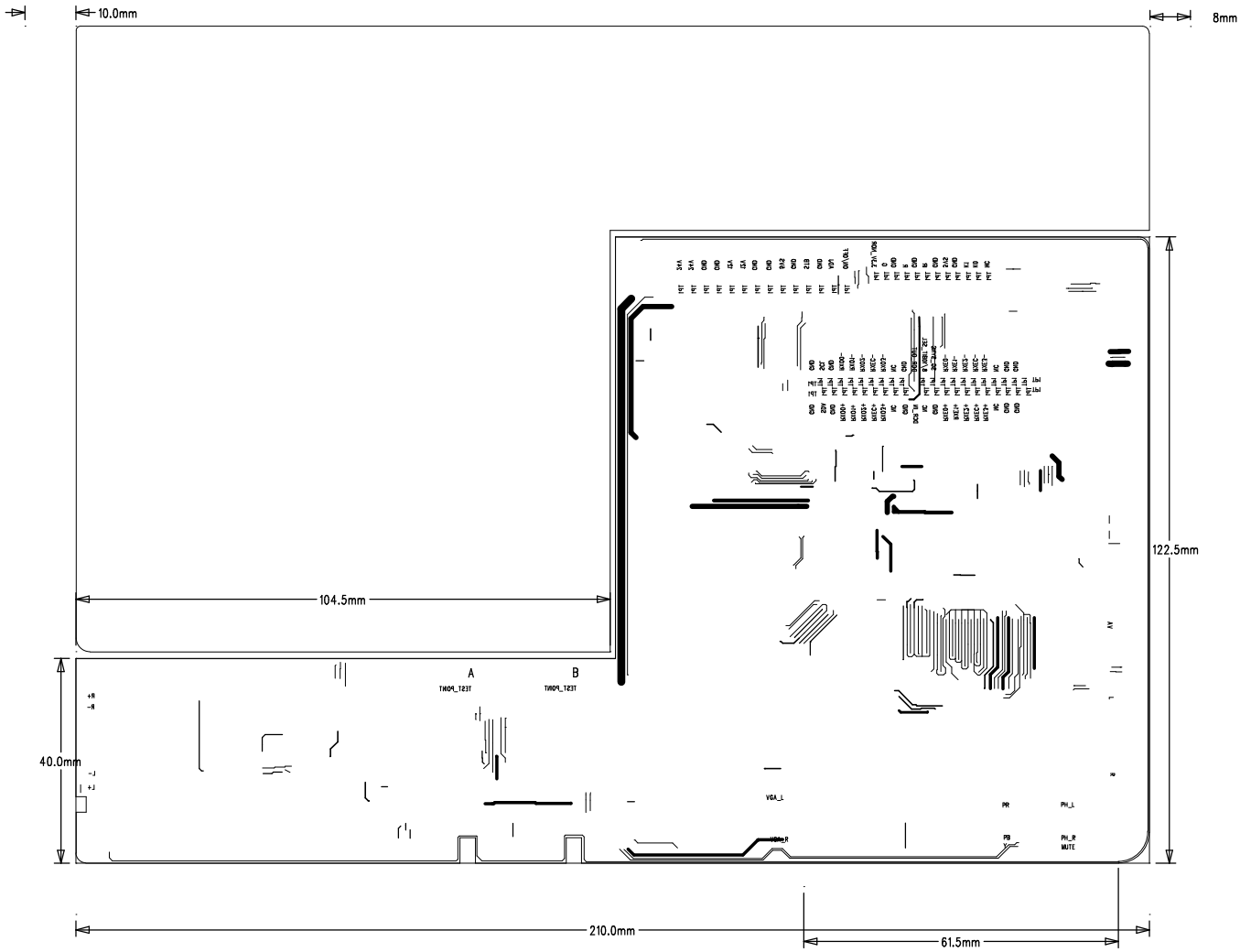


PMBT 3904



Requirement:

1. PCB Thickness: 1.6mm
2. Add "Solder Direction" Sickscreen as marked
3. Add AI Hole as marked
4. HDMI Impedance control P8,P9,P10(100 OHM)
5. USB Impedance control P6,P7 (90 OHM)



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6M63N/A/E

Service Adjustment

(V0. 0)

Factory Manual

1 、How to enter and exit factory mode

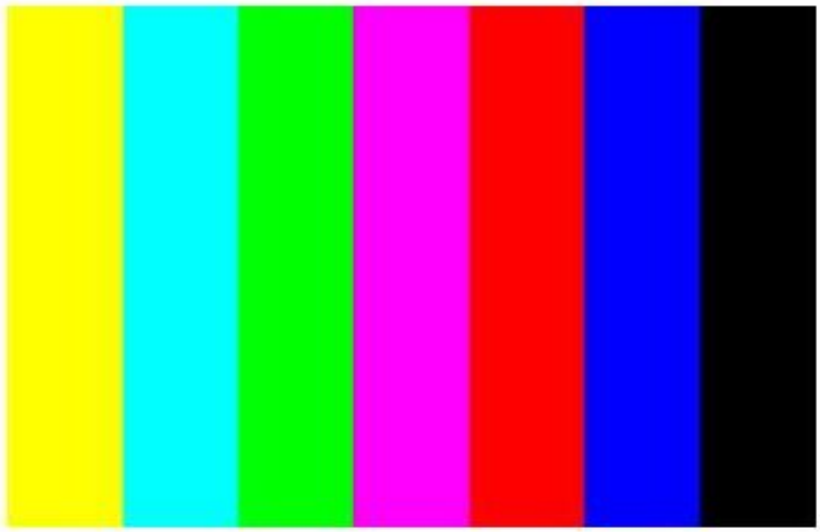
1.1.1 Press Source button, and then press digital button “3”, “1”, “9”, “5” in turns to enter the factory menu. Press ⬆ and ⬇ button to choose the item， press OK button to enter the submenu and press ➡ button to adjust the value.

In the factory mode, press “menu” key can exit the factory mode.

2 、How to adjust White Balance

2.1 ADC ADJUST

Before adjusting, enter the channel you want to adjust and input adjust signal (YPBPR channel: 576Pand720P &100% color bar; VGA channel: 1366*768 & tessellated white and black). Select AUTO ADC, press ▶ button to auto adjust the ADC value.



100% color bar

tessellated white and black

Note: 1、The YPBPR and VGA’s Auto White Balance adjust (AUTO ADC) must be done on the product line.

2、In YPBPR channel ,must adjust the SD and HD two modes.

2.2 W/B ADJUST

Enter factory mode, select W/B ADJUST, go to the “MODE” item to select the channel which you want to adjust then select the color temperature (Medium, Warm, Favorite,Cool). Then press ▼ Key to go to these items you want to adjust:

R Gain

G Gain

B Gain

R Offset

G Offset

B Offset

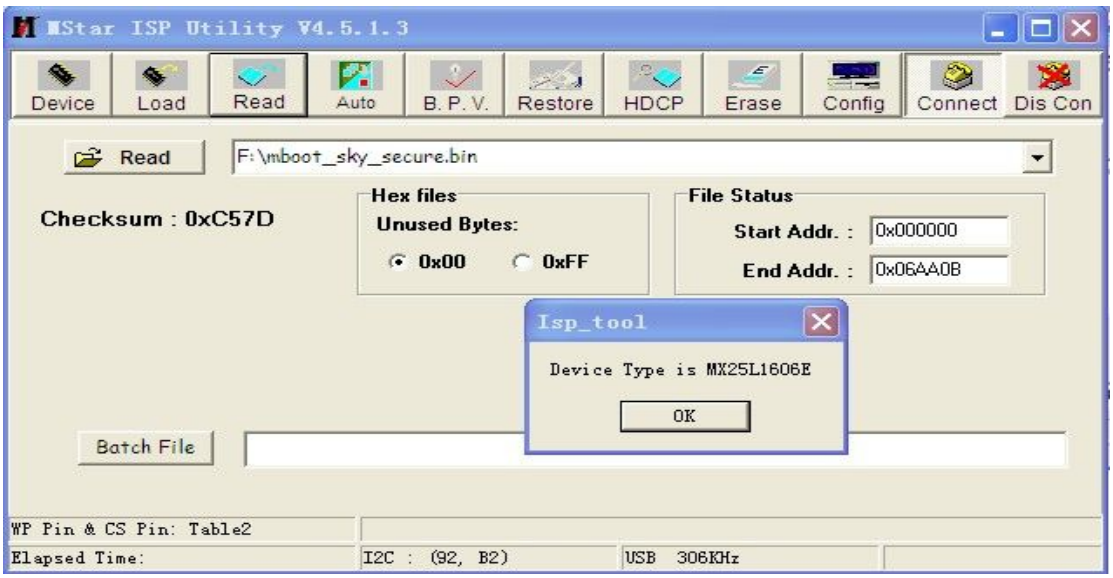
Press ◀ or ▶ key can adjust the value to the best effect.

COPY ALL : Copy there values to all source!

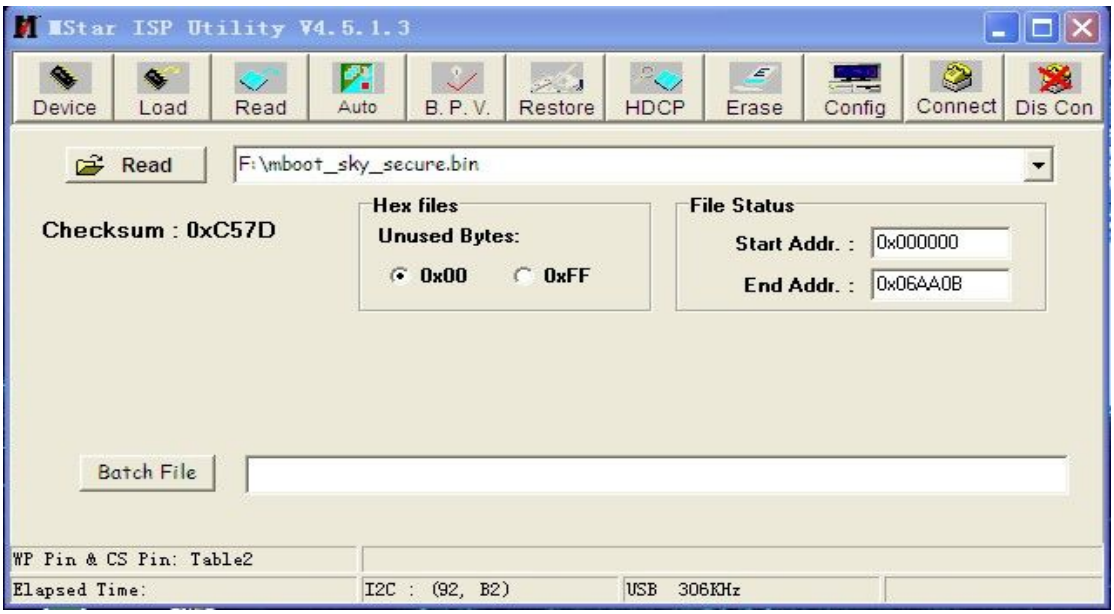
3、How to update software

3.1 Open MSTAR ISP Utility tool

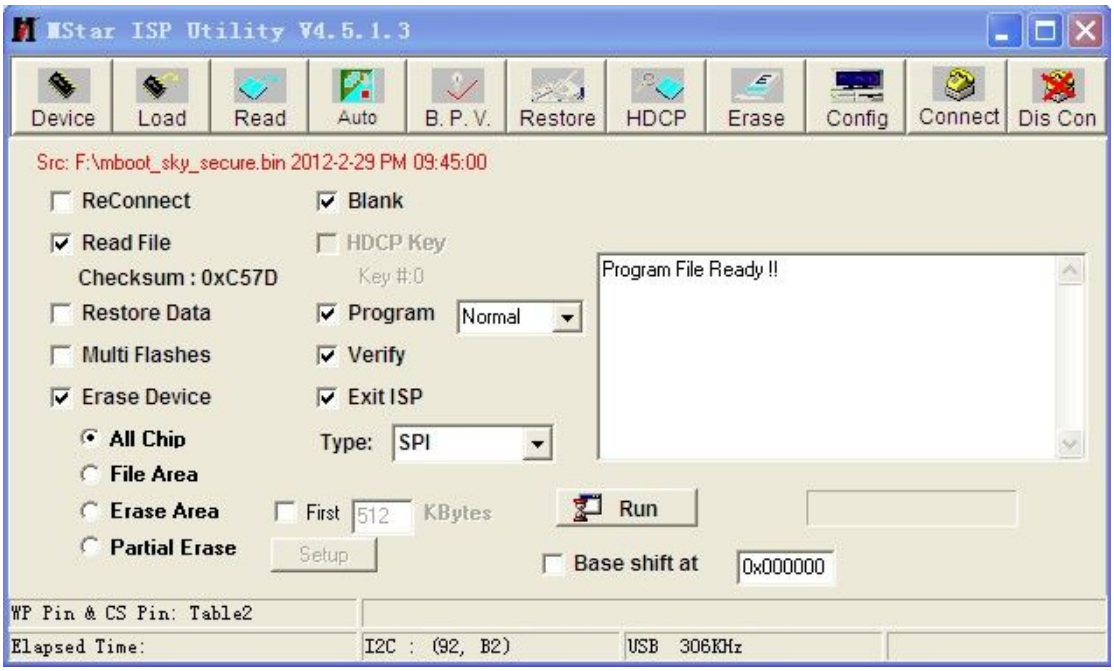
3.2、Connect the tool to the device ,turn on TV .press “Connect”。



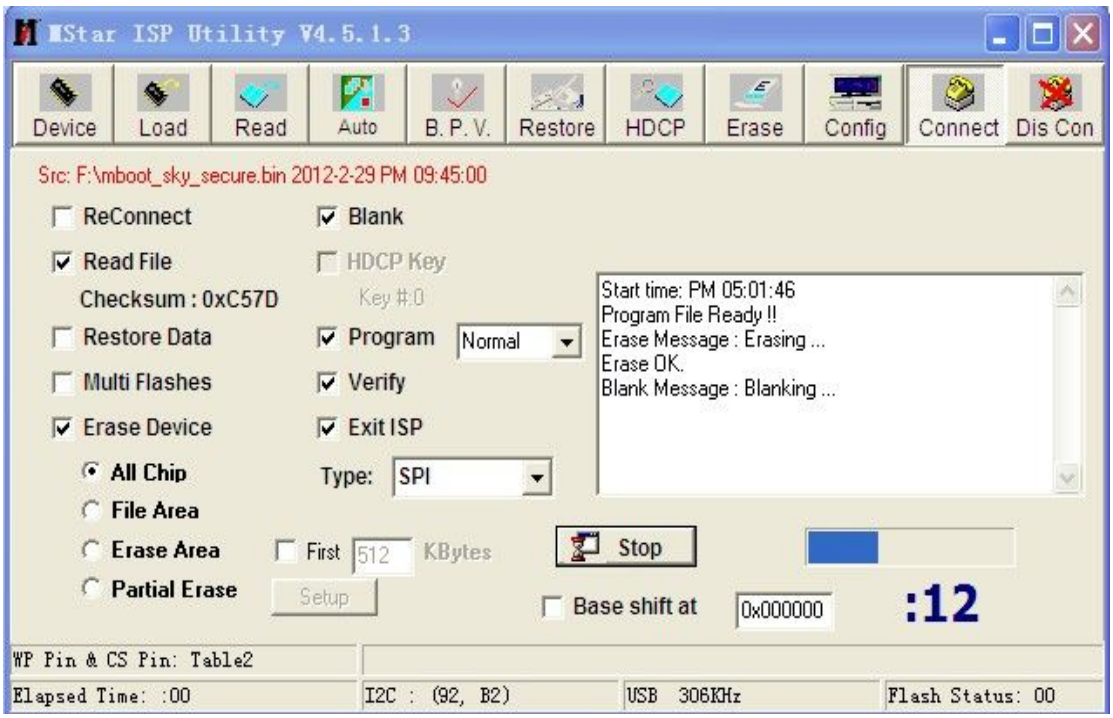
3.3、press “Read” to choose the “merge.bin” file .

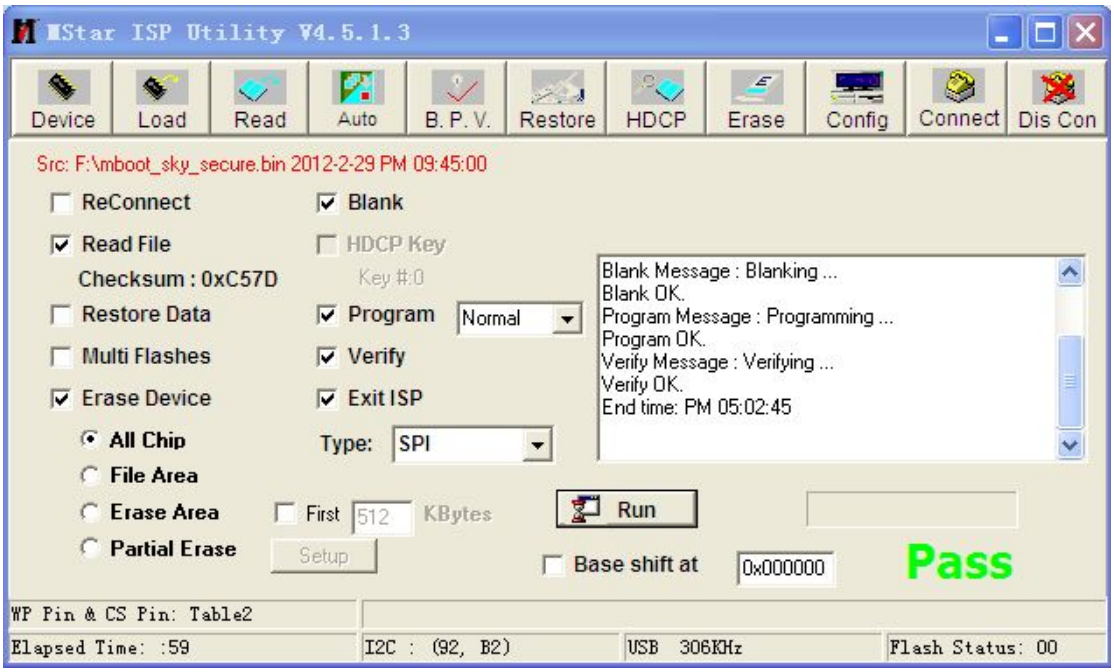


3.4、Press “Auto”, set parameter。



3.5、press “Run”。





4、Update software (by USB):

Copy the new software (name by "MERGE.bin") to the root directory of USB drive. Plug the drive to the USB socket (if there are two USB socket, make sure you use the socket 1). Enter MENU and select SETUP item , select "Software Upgrade(USB)" item and press OK button to begin update. TV set will restart when finish. Note, you need to restart the TV set again by AC power.

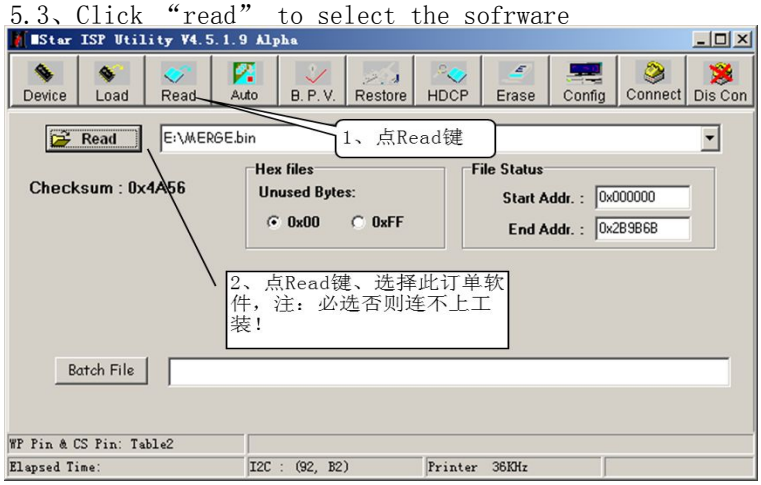
Note: We suggest you need to do "**Restore Default**" after software update.

5、HDCP KEY burning:

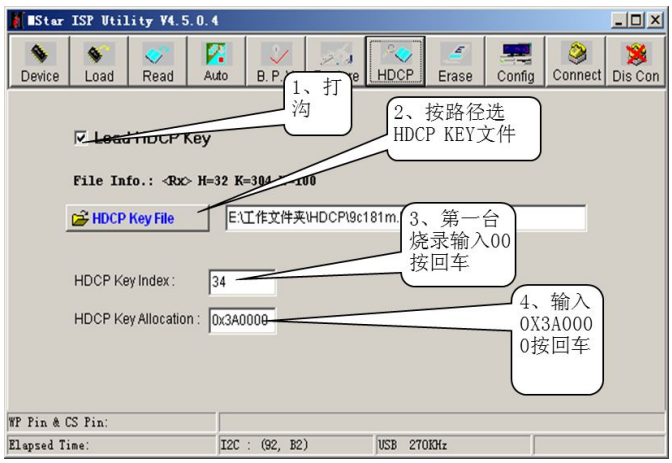
5.1、Connect burning tool to main board P4. Open ISP4.5.3.5 tool

5.2、Turn on TV then click “connect”

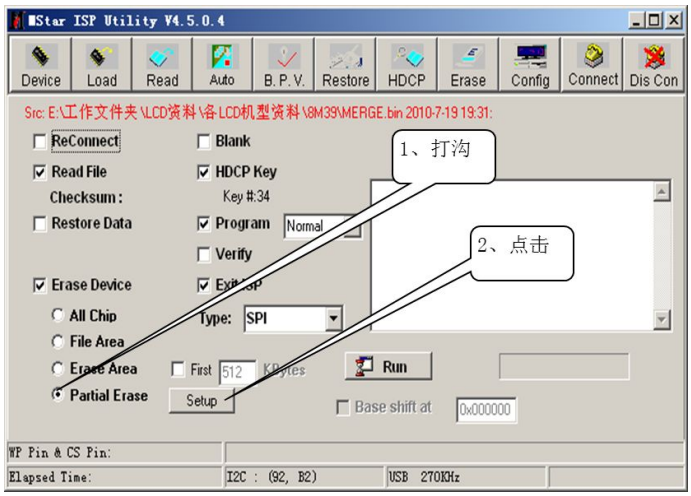
5.3、Click “read” to select the sofrware



5.4、Click “HDCP” then set the following items, the address should be 0X390000



5.5、Click “AUTO” then set the following items



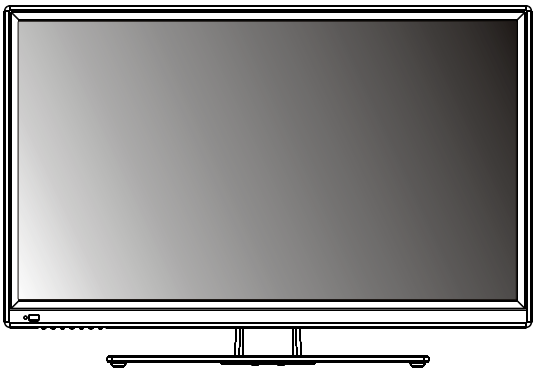
5.6、When finished setting .click “RUN” to burn HDCP KEY

ADC ADJUST	**MODE**		
	R-GAIN		
	G-GAIN		
	B-GAIN		
	R-OFFSET		
	G-OFFSET		
	B-OFFSET		
	AUTO ADC		
W/B ADJUST	**MODE**		
	TEMPERATURE	**Medium/Warm/Cool**	
	R-GAIN		
	G-GAIN		
	B-GAIN		
	R-OFFSET		
	G-OFFSET		
	B-OFFSET		
	COPY ALL		
Panel control	**TI Mode**	**On/Off**	On/Off : adjust the TI mode of LVDS
	LVDS	**On/Off**	odd-even channel switch
	Port	**On/Off**	Parameter 8(24bit) / 10(30bit)
	OVER SCAN	**Startup Sourrce**	
		Left Crop	These items can adjust the size of the Top/Bottom/Left/Right
		Right Crop	
		Up Crop	
		Down Crop	
SYSTEM SETTING	**Fac.Hotkey**	**On/Off**	Factory hot key enable
	Default Language	**English/ SPANISH / PORTUGUESE / FRENCH**	
	Country	**Brazil/Argentina/Peru/Chile**	
	Power On Mode	**Standby/Memory/Power On/**	
	Aging Mode	**On/Off**	
	Restore Default		reset all value to factory default
	Preset channels		reset channel to default
OSD Language	**English**	**On/Off**	
	FRENCH	**On/Off**	
	PORTUGUESE	**On/Off**	
	SPANISH	**On/Off**	
Input Sourrce	**AV1**	**On/Off**	
	AV2	**On/Off**	
	HDMI 1	**On/Off**	
	HDMI 2	**On/Off**	
	HDMI 3	**On/Off**	
	HDMI 4	**On/Off**	
	YUV 1	**On/Off**	
	YUV 2	**On/Off**	
	PC-RGB	**On/Off**	

Analog Curve	**Mode**		
	BRIGHTNESS		
	CONTRAST		
	SATURATION		
	HUE		
	SHARPNESS		
	VOLUME		
PICTURE MODE	Startup Source		
	MODE	**Natural/Cinema/Favorite/Game/Dynamic**	
	BRIGHTNESS		
	CONTRAST		
	COLOR		
	SHARPNESS		
	TINT		
Mac Address Update			
HDCP Key Update			
CI PLUS Key UPDATE			
SOFTWARE UPDATE(USB)			
SW INFORMATION			
SSC SETTING			
VIF INITIALIZATION			
PIP/POP	PIP/POP	On/Off	
	PIP Border Width		
3D	3D	On/Off	
	3D Output Mode	**Side-By- Side/Top-and-Bottom/**	
CUSTOMER SETTING			
WHITE PATTERN		Off/White/Red/Green/Blue/Black	
WDT		On/Off	
PVR RECORD ALL		On/Off	
UART ENABLE		On/Off	
CI+Credential Mode			
Power on LOGO			
Stagecraft 1.2 certification			
Audio Hidev Mode			
Others			
Netfix Key Update			

Skyworth

User Manual



29E52

Size:A5

Description: MANUAL(6M63N)	
Job No. 1303158M	Brand Name: SKYWORTH
MODEL: 29E52	P/No.
REV:	Scale:
Engineering Dept:	
Artwork By:	Date: 2013-6-20
Checked By:	Date:
Approved By:	Date:

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WARNING AND PRECAUTION

Read all of the instructions before operating the set. Keep these instructions well for later use.

Warning

- Only use attachments/accessories specified or provided by the manufacturer (such as the exclusive supply adapter, battery etc).
- Please refer the information on exterior back enclosure for electrical and safety information before installing or operating the apparatus.
- To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
- The ventilation should not be impeded by covering the ventilation openings with items, such as newspaper, table-cloths, curtains, etc.
- The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.
- For the terminals marked with symbol of " ϟ " may be of sufficient magnitude to constitute a risk of electric shock. The external wiring connected to the terminals requires installation by an instructed person or the used of ready-made leads or cords.
- To prevent injury, this apparatus must be securely attached to the floor/wall in accordance with the installation instructions.
- Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.
- The battery (battery or batteries or battery pack) shall not be exposed to excessive heat such as sunshine, fire or the like.
- Excessive sound pressure from earphones and headphones can cause hearing loss.
- Listening to music at high volume levels and for extended durations can damage one's hearing. In order to reduce the risk of damage to hearing, one should lower the volume to a safe, comfortable level, and reduce the amount of time listening at high levels.
- The mains plug or appliance coupler is used as disconnect device, it shall remain readily operable.
- When not in use and during movement, please take care of the power cordset, e.g. tie up the power cordset with cable tie or something like that. It shall be free from sharp edges and the like that can cause abrasion of the power cordset. When put into use again, please make sure the power cordset being not damaged, If any damages found, please look for the service person to replace the power cordset specified by the manufacturer or have the same characteristics as the original one.
- Explanation of symbol, marking, signal lamp or similar means indicate that apparatus is completely disconnected from the mains.
- Attention should be drawn to environmental aspects of battery disposal.
- No naked flame sources, such as lighted candles, should be placed on the apparatus.
- To prevent the spread of fire, keep candles or other open flames away from this product at all times.
- Each USB terminal shall be loaded with 500mA under normal operation.

WARNING AND PRECAUTION

Important Information For Australia

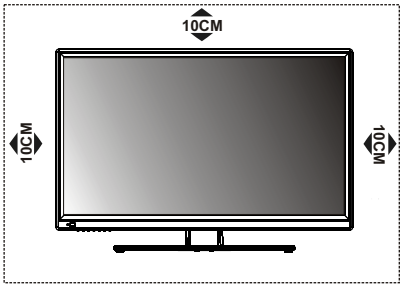
- Using cabinets or stands recommended by the manufacture of the television.
- Only using furniture that can safety support the television.
- Ensuring the television is not overhanging the edge of the supporting furniture.
- Not placing the television on tall furniture(for example, cupboards or bookcases) without anchoring both the furniture and the television to a suitable support.
- Not standing the television on cloth or other materials placed between the television and supporting furniture.
- Educating children about the dangers of climbing on furniture to reach the television or its controls.
- The apparatus should be provided with a restraining device such as a fixing point to facilitate restraining the apparatus from toppling forward.

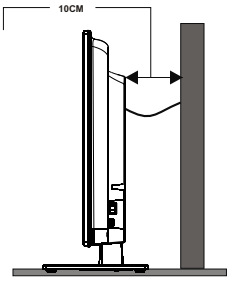
WEEE Directive

Correct Disposal of this product. This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

Positioning The TV Set

- Install Display on solid horizontal surface such as a table or desk. For ventilation, leave a space of at least 10cm free all around the set. To prevent any fault and unsafe situations, please do not place any objects on top of the set. This apparatus can be used in tropical and/or moderate climates.
- Fixing the rear of enclosure to wall. (only for AU market)





WARNING AND PRECAUTION

Operating Environment

- Do not install this equipment in a confined space such as a bookcase or similar unit.
- Do not use the set near damp, and cold areas, protect the set from overheating.
- Keep away from direct sunlight.
- Do not use the set near dust place.
- Do not attach candle to accessible opening area, to avoid flammable foreign material from entering the TV.

Precautions For Using Remote Control

- Use the remote control by pointing it towards the remote sensor. The items between the remote control and the remote sensor will interfere the normal operation.
- Do not make remote control vibrate violently. Also, do not splash liquid on the remote control, also do not put the remote control in high humidity place.
- Do not place remote control under direct sunlight which will cause deformation of the unit by heat.
- When the remote sensor is under direct sunlight or strong lighting, the remote control will do not work. If so please change the lighting or TV's position, or operate the remote control closer to the remote sensor.

Precautions For Using Battery

Improper using of the battery will cause leakage. So please do as the following methods and use carefully.

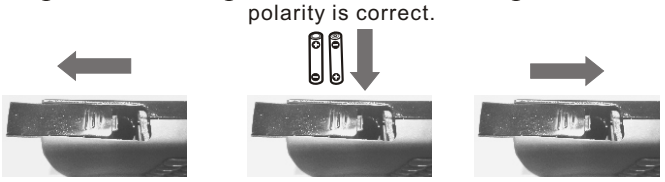
1. Please note the batteries' polarity, to avoid short circuit.
2. When the battery's voltage is insufficient which affect the use range, you should replace new battery. Remove the batteries from the remote control unit if you do not intend to use it for a long time.
3. Do not use different types of batteries(for example, Manganese and Alkaline batteries) together.
4. Do not put the battery into fire, and charge or decompose the battery.
5 .Please dispose batteries abide by relevant environmental protection regulation.

Installation Of Remote Control Battery

Place two AA size batteries in the remote controls battery compartment, making sure to match the polar-ity markings inside the compartment.

Note: Pictures are only for reference. Actual items may differ.

❶ Open. ❷ Make sure the polarity is correct. ❸ Close.



FUNCTIONS AND FEATURES

Brief Introduction

Thanks for your purchase of our digital high-definition LED television! This product with diverse functions is designed to fulfill the optimum requirements from commercial, industrial and household uses. LED television possesses the display function of both TV and PC. It features advanced picture performance, smaller in size and lighter in weight, meanwhile, consumes less power and makes no radiation. The new generation LED provides you with comfortable, safe and environmental protection feeling. Some description could be little different base on different model.

Basic Function

1. Auto tuning.
2. AV and COMPONENT inputs are available.
3. Full-function infrared remote control.
4. Sleep timer and program recall shortcut.
5. Narrow design of ultra-thin ultra-light.
6. A wealth of reception(TV / AV / COMPONENT / PC / HDMI / USB).

PC Monitor Functions

1. Auto resizing & centering, perfect geometric graphic.
2. Supports PC sound source input.
3. Supports 800x600, 1024x768, 1366x768, PC formats, refresh rate is 60Hz.

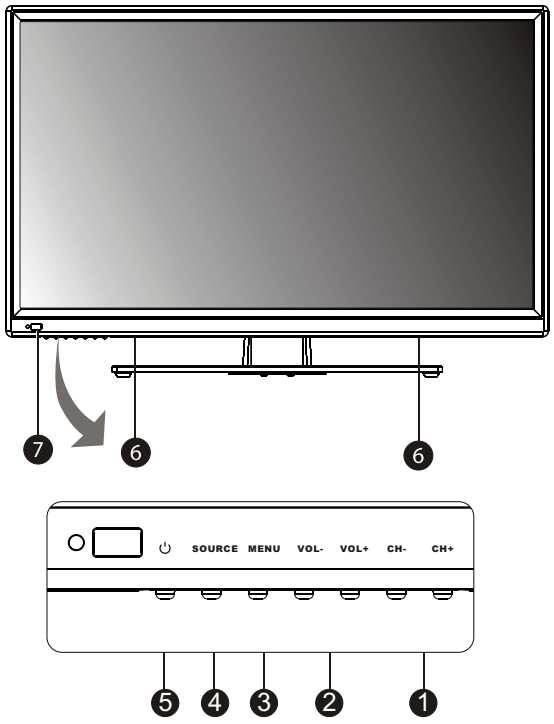
Features

1. Embedded digital color gain control circuit, provides better brightness and reality.
2. Embedded 3D comb filter.
3. Black/white Level Stretch Circuit.
4. High contrast and wide viewing angle, responding fast.
5. Component input supports 1080P high definition signal formats.
6. Support HDMI input.
7. This TV can be used as a high-performance PC monitor for it has a VGA interface. Computer sound source can also be supported to realize the multimedia function.
8. Low power consumption in standby mode to save energy.
9. Latest high integrated digital processor chip.

EXTERNAL SCHEMATIC AND INSTALLATION

FRONT PANEL

Note: The graphics are for representation only.



1. Channel Down/Up Button

2. Volume UP/ DOWN button

3. MENU button

4. Source button

5. Standby button

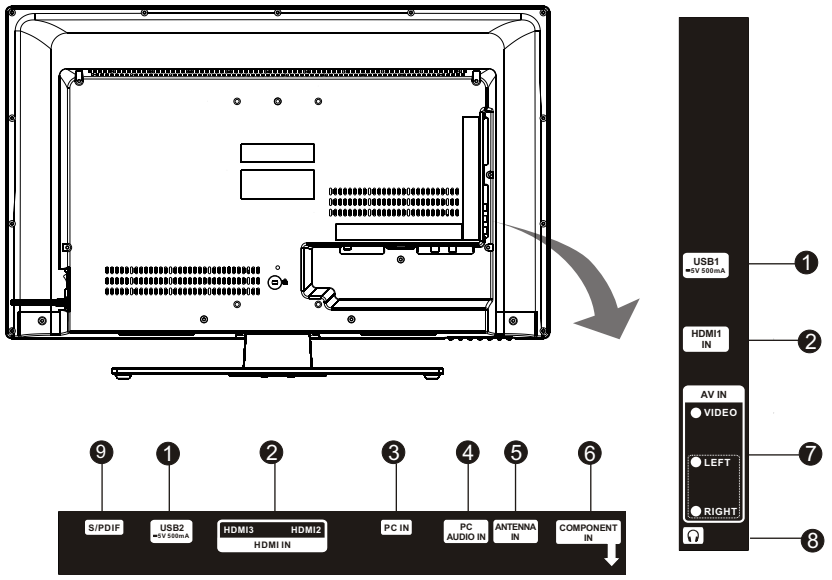
6. Speakers

7. Power Indicator / Remote Sensor

EXTERNAL SCHEMATIC AND INSTALLATION

BACK PANEL

Note: The graphics are for representation only.



1.USB1\USB2: USB port.

2. HDMI1\HDMI2\HDMI3: Connect HDMI input signal from signal source such as DVD.

3. PC IN: Connect a PC via a PC cable.

4. PC AUDIO IN: Audio input for PC and Audio input for HDMI when the signal is DVI timing.

5. ANTENNA IN: Connect a coaxial cable to receive signal from the antenna or cable.

6. COMPONENT IN(Y Pb Pr IN): Connect YPbPr and Audio signal from signal source such as DVD.

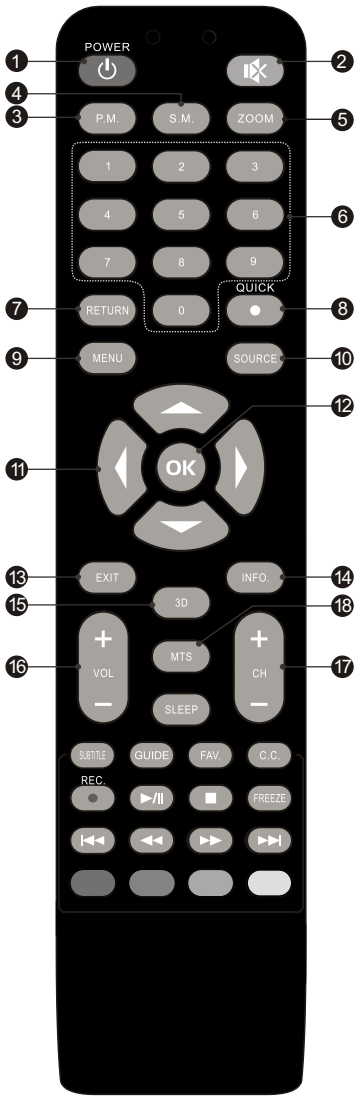
7. AV IN: Connect AUDIO and VIDEO input signal from signal source such as DVD.

8. EARPHONE: Audio output, speakers will be muted when earphone plugged.

9. S/PDIF: Use a digital coaxial cable to connect your TV to a compatible audio receiver.

EXTERNAL SCHEMATIC AND INSTALLATION

REMOTE CONTROL



1.POWER(⏻)
Press to turn the TV on or standby.

2.Mute(🔇)
Press to mute or restore the volume.

3.Picture Mode(P.M.)
Press to select the desired picture mode.

4.Sound Mode(S.M.)
Press to select the desired sound mode.

5.Zoom
Press to the desired picture format.

6.Number buttons
Press to set the TV channel directly.

7.Return Button
Press to return to the previously viewed channel.

8.QUICK(Option)
Press to enter the sub channel point to switch to digital channel in DTV. And press to show INFO bar quickly in USB.

9.Menu
Press to enter or exit from the TV menu.

10.Source
Press to select the input source mode.

11.Up/Down/Left/Right(▲ / ▼ / ◀ / ▶)
Press to select or adjust the desired item on the TV menu.

12.OK button
Press to confirm and execute the selection.

13.Exit
Press to exit from any menu.

14.Information (INFO.)
Press to display the current information including screen format, source, etc.

15.3D
Not used.

16.Volume Up/Down(VOL+/VOL-)
Press to adjust the volume.

17.Channel Up/Down(CH+/CH-)
Press to select previous/next channel.

18.MTS
Press to select desired sound output(Mono,Stereo or SAP)depending on the broadcasting channel.

EXTERNAL SCHEMATIC AND INSTALLATION

REMOTE CONTROL

19.SLEEP
Press to set the length of time to switch the TV to standby mode.

20.Subtitle
Press to open or close the subtitle.

21.GUIDE
Press to display the current EPG information.

22.Favorite Channel(FAV.)
Press to view your assigned favorite channels. Press Up/Down buttons to cycle through your assigned favorite channels, press OK to confirm.

23.Closed Caption(C.C.)
Press to turn on or off closed captions.

24.Record(REC)
Not used.

25.Freeze
Press to freeze or unfreeze the picture.

26. USB Play Control Buttons

Play & Pause (▶/II)
Press to pause playback,
press again to continue playback.

Stop (■)
Press the stop button to exit full-screen playback, access to the preview.

Fast Backward Button(◀◀)
Press to fast reverse.

Fast Forward (▶▶)
Press to fast forward.

Previous (⏮)
Press to play the previous file.

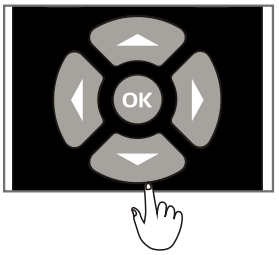
Next (⏭)
Press to play the next file.

27.Color buttons
Not used.

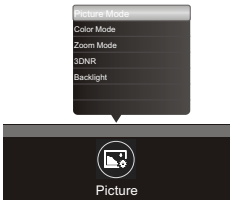
MENU CONTROL

Menu Operation

Press "MENU" key to enter the main menu .
Press the[◀]/ [▶]key to select a menu.
Press the[▲]/ [▼]key to select a item.
Press "OK" key to enter the item.
Press "MENU" key to exit the item.



Picture



Picture Mode: Contain "Standard", "Dynamic", "Soft", "Personal" four modes.

Contrast: Adjusts the difference between the light and dark areas of the picture. To get better picture value, Contrast should be adjusted to the proper value.

Brightness: Adjusts the brightness of the picture, and usually is adjusted together with Contrast.

Sharpness: Adjusts the sharpness of the picture. This function is not available in PC mode.

Tint: Adjust the tint of the picture. Only can be done under the NTSC system.

Color: Adjusts the richness of colour. This function is not available in PC mode.

Color Mode: Contain "Warm", "Cool", "Normal" three modes.

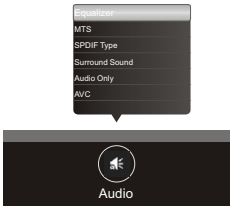
Zoom Mode: Contain "Normal", "Zoom", "Wide", "Letter Box", "Panorama ", "Auto " six modes.(Some option is no visible at some source).

3DNR: Contain "Middle", "Strong", "Off", "Weak". (No useful at PC source)

Backlight: Draw the control bar to adjust the backlight .

MENU CONTROL

Audio



Equalizer: Contain"Personal", "Standard","Music", "Sports" and"Movie".

MTS: Press to select desired sound output(Mono,Stereo or SAP)depending on the broadcasting channel.

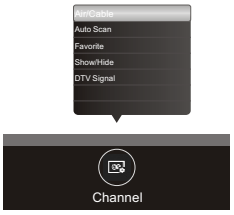
SPDIF Type: Select the digital audio output mode.

Surround Sound: Contain On and Off.

Audio Only: Only audio, no image shows on the TV.

AVC: Can adjust the volume corresponding to the input audio level.

Channel



Air/Cable: Select between Air and Cable.

Auto Scan: Search and save all programs at current source by automatically.

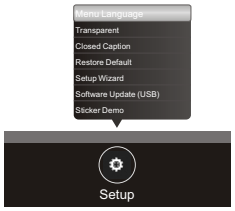
Favorite: Scan or edit you desired programmes.

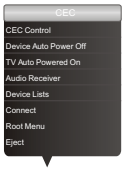
Show/Hide: Shows or hides the desired programs.

DTV Signal: Shows the current DTV program signal quality.

MENU CONTROL

Setup





Menu Language: Select you desired Menu language.

Transparent: Adjust the transparency of the TV display screen.

Closed Caption: Select between CCOn, CCOff and CCOn Mute.

Restore Default: Set to the factory default mode.

Setup Wizard: Set Menu language, Time Zone, DST, Time Format, and Air/Cable step by step, and then search for programs.

Software Update (USB): Upgrade the TV system software.

Sticker Demo: Functional demo switch.

CEC: Set CEC Control, Device Auto Power Off, TV Auto Power On, Audio Receiver, Device Lists, Connect, Root Menu and Eject.

CEC Control: Contains On and Off.

Device Auto Power Off: Automatically power off device when TV is turned off.

TV Auto Power On: Automatically power on TV when a connected device is powered on.

Audio Receiver: Audio out of TV from a Digital Power Amplifier, only can be connected to HDMI 3 port of the TV.

Device Lists: Shows the connected CEC devices.

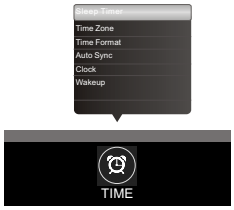
Connect: Highlight and press OK to connect the CEC devices.

Root Menu: Open the DVD menu.

Eject: Eject the DVD disk.

MENU CONTROL

Time



Sleep Timer: Contain Off, 5,10, 15, 30,60, 90, 120,180, 240 minutes.

Time Zone: Select the desired Time Zone.

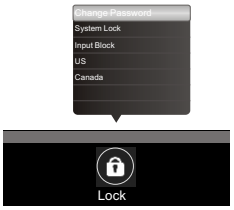
Time Format: Contain 12-hour and 24-hour two modes.

Auto Sync: Select On to automatically synchronize the time.

Clock: Set the clock time.

Wakeup: Set the wakeup time.
.

Lock



Change Password: Reset the password.

System Lock: Highlight and press OK to set Input Block and Parental Control.

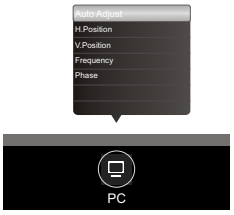
US: Block programs according to US TV and movie ratings.

Canada: Block programs according to Canada TV ratings.

NOTE:
- Default password is [0000]. Should input this password before set this part.
- The Super password is [8899].
  In the event whereby new password is forgotten, you can use Super Password as the old password to reset a new password. Or directly using the super password to enter.

MENU CONTROL

PC



Auto Adjust: Adjust PC size and position.

H.Position: Adjust the H.Position of the television.

V.Position: Adjust the V.Position of the television.

Frequency: Adjust the updating frequency of the picture.

Phase: Adjust the phase of the picture.

MENU CONTROL

USB Menu

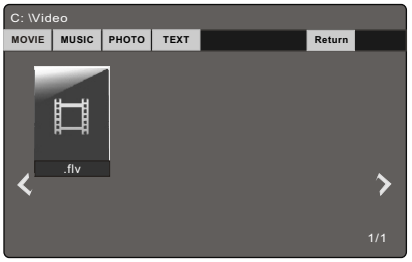
You can view movie, music, photo and text files from your USB storage devices.
1.Connect USB storage device to USB input terminal.
2.Press the source to select the USB.
3.Press [◀] / [▶] to select the types of media modes: VIDEO, MUSIC, PHOTO and TEXT.

VIDEO: Play videos from USB.
MUSIC: Play music from USB.
PHOTO: View photos from USB.
TEXT: View text files from USB.

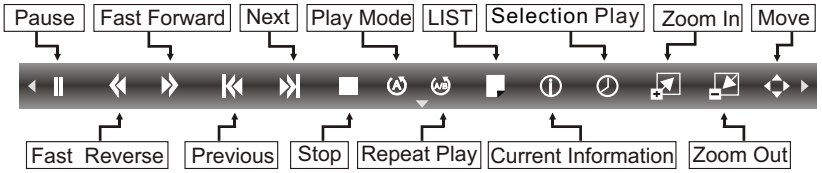
USB CONTROL

Movie Menu

1.Press [◀] / [▶] to select MOVIE. Press [**OK**] to enter.
2.Press [◀] / [▶] or [▲] / [▼] to select the desired folder and press [**OK**] to open the folder, press [▶/II] to start playing.
3.Press [■] to stop movie playing and return to video list.
4.Press "**RETURN**" to the previous menu screens.



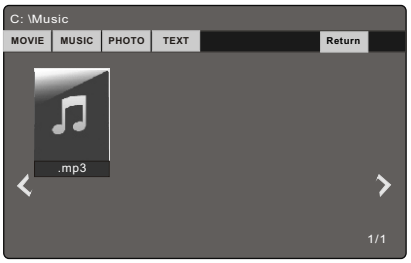
Movie Control Bar



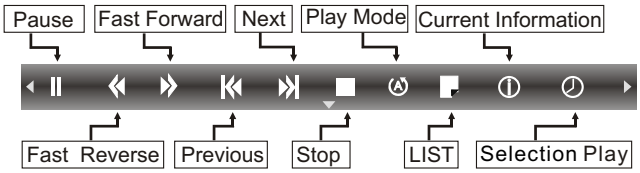
- Press [**INFO**] to display Video Control Bar while playing the video.
- Press [◀] / [▶] to select the desired settings.
- Press [▼] to exit from Video Control Bar.

Music Menu

1.Press [◀] / [▶] to select MUSIC. Press [**OK**] to enter.
2.Press [◀] / [▶] or [▲] / [▼] to select the desired folder and press [**OK**] to open the folder, press [▶/II] to start playing.
3.Press [■] to stop music playing and return to music list.
4.Press "**RETURN**" to the previous menu screens.



Music Control Bar



- Press [**INFO**] to display Music Control Bar while playing the music.
- Press [◀] / [▶] to select the desired settings.
- Press [▼] to exit from music Control Bar.

Note:For lyric function to work, the music and lyric files must be named in the same.

USB CONTROL

Photo Menu

1.Press [◀] / [▶] to select PHOTO. Press [**OK**] to enter.
2.Press [◀] / [▶] or [▲] / [▼] to select the desired folder and press [**OK**] to open the folder, press [▶/II] to start playing.
3.Press [■] to stop picture playing and return to picture list.
4.Press "**RETURN**" to the previous menu screens.

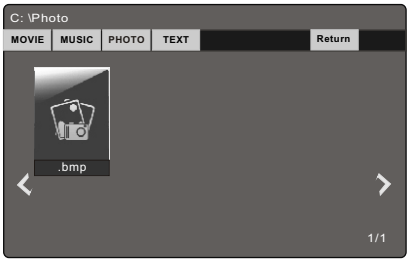
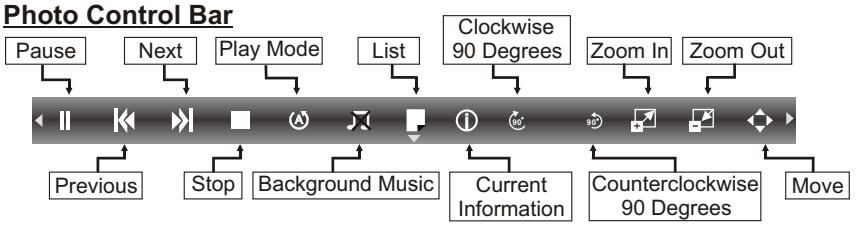


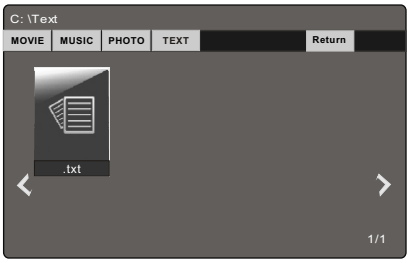
Photo Control Bar



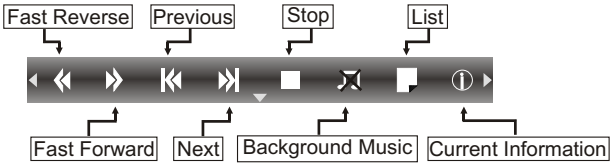
- Press [**INFO**] to display Photo Control Bar during photo slide show.
- Press [◀] / [▶] to select the desired settings.
- Press [▼] to exit from photo Control Bar.

Text Menu

1.Press [◀] / [▶] to select TEXT. Press [**OK**] to enter.
2.Press [◀] / [▶] or [▲] / [▼] to select the desired folder and press [**OK**] to open the folder, press [▶/II] to start playing.
3.Press [■] to stop text playing and return to text list.
4.Press "**RETURN**" to the previous menu screens.



Text Control Bar



- Press [**INFO**] to display Text Control Bar while reading the text.
- Press [◀] / [▶] to select the desired settings.
- Press [▼] to exit from Info bar.

Note:The txt document supports up to 1000 pages. It supports *.txt files.(English character)

TROUBLESHOOTING

Before calling a service technician, review following information for possible causes and solutions for the problem you are experiencing.

NO PICTURE, NO SOUND

1. Check if the fuse or circuit breaker is working.
2. Plug another electrical device into the outlet to make sure it is working or turned on.
3. Power plug is bad contact with the outlet.
4. Check the signal source.

NO COLOR

1. Change the color system.
2. Adjust the saturation.
3. Try another channel. Black-white program may be received.

REMOTE CONTROL DOES NOT WORK

1. Change the batteries.
2. Batteries are not installed correctly.
3. Main power is not connected.

NO PICTURE, NORMAL SOUND

1. Adjust the brightness and contrast.
2. Broadcasting failure may happen.

NORMAL PICTURE, NO SOUND

1. Press the volume up button to increase volume.
2. Volume is set to mute, press MUTE to restore sound.
3. Change the sound system.
4. Broadcasting failure may happen.

UNORDERLY RIPPLES ON THE PICTURE

It is usually caused by local interference, such as cars, daylight lamps and hair driers. Adjust the antenna to minimize the interference.

BLANK SCREEN IN PC MODE

Perhaps the TV can not recognize the resolution set by the PC. Suggest to change to the best resolution or other standard resolutions of Windows system. Set refresh rate to be 60Hz.

SNOWY DOTS AND INTERFERENCE

If the antenna is located in the fringe area of a television signal where the signal is weak, the picture may be marred by dots. When the signal is extremely weak, it may be necessary to install a special antenna to improve the reception.

1. Adjust the position and orientation of the indoor/outdoor antenna.
2. Check the connection of antenna.
3. Fine tune the channel.
4. Try another channel. Broadcasting failure may happen.

IGNITION

Black spots or horizontal streaks appear, or the picture flutters or drifts. This is usually caused by interference from car ignition system, neon lamps, electric drills, or other electrical appliance.

GHOST

Ghosts are caused by the television signal following two paths. One is the direct path, the other is reflected from tall buildings, hills, or other objects. Changing the direction or position of the antenna may improve the reception.

RADIO FREQUENCY INTERFERENCE

This interference produces moving ripples or diagonal streaks, and in some case, loss of contrast in the picture. Find out and remove the radio interference source.

Note:
If the problem persists after solutions, please contact your local support centre.

SPECIFICATIONS

Screen size - diagonal:	74cm
Screen resolution:	1366x768
Audio output power (L+R):	5W + 5W
Working voltage:	100-240V~ 50/60Hz
Rated power consumption:	40W
Dimensions (W x D x H):	670X200X459mm
Net weight:	6.5Kg

Environment(only for Tropical climates zone):

Working temperature: 5℃~45℃

Working humidity: 20%~80%

Storage temperature: -15℃~50 ℃

Storage humidity: 10%~90%

Environment(only for Moderate climates zone):

Working temperature: 5℃~35℃

Working humidity: 20%~80%

Storage temperature: -15℃~45 ℃

Storage humidity: 10%~90%

Channel coverage: CH2~CH69 AIR
CH1~CH135 CABLE

System:

TV: NTSC M

AV: PAL, NTSC PLAYBACK

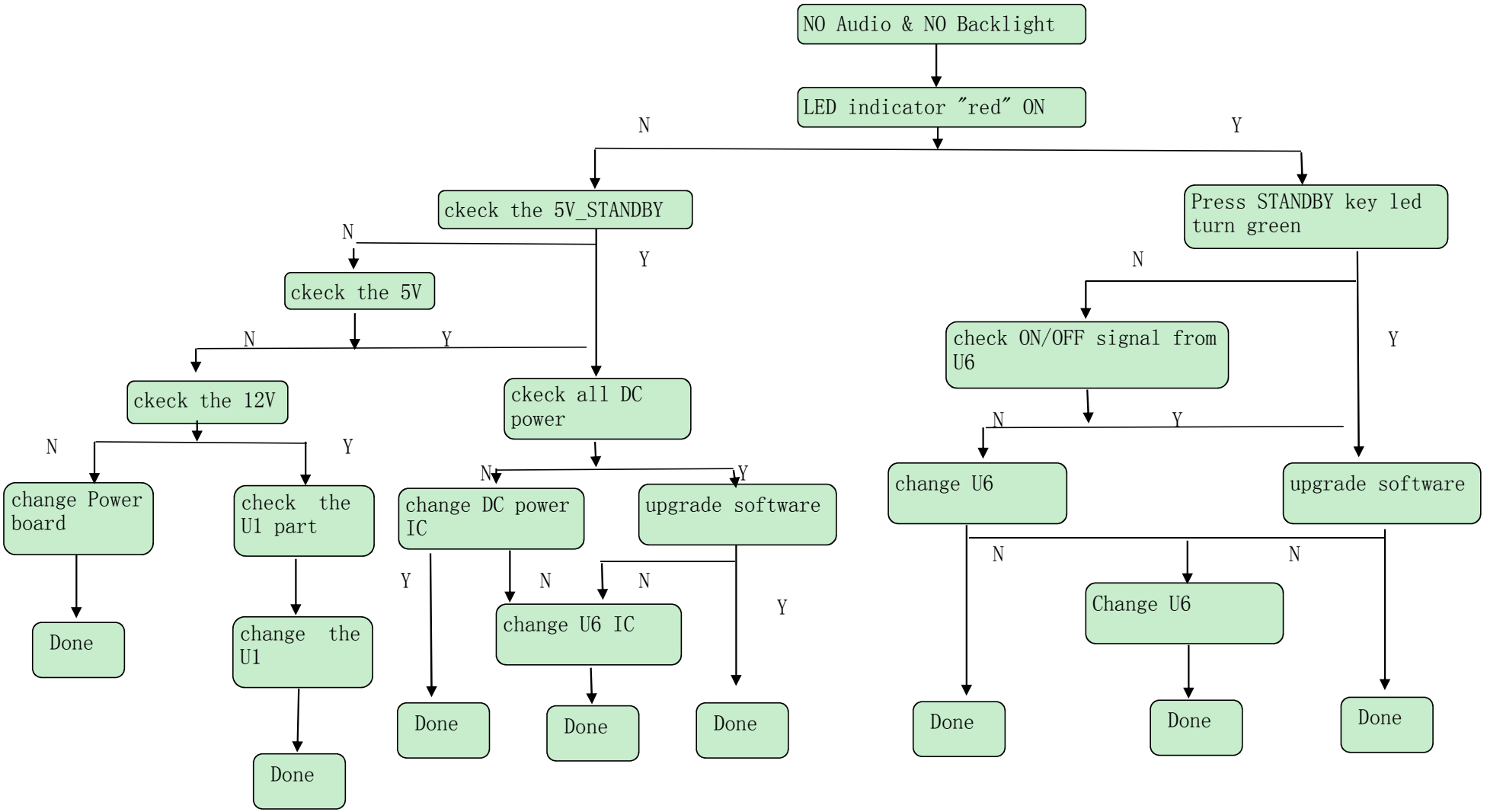
Preset programs: 204 (Air and Cable)

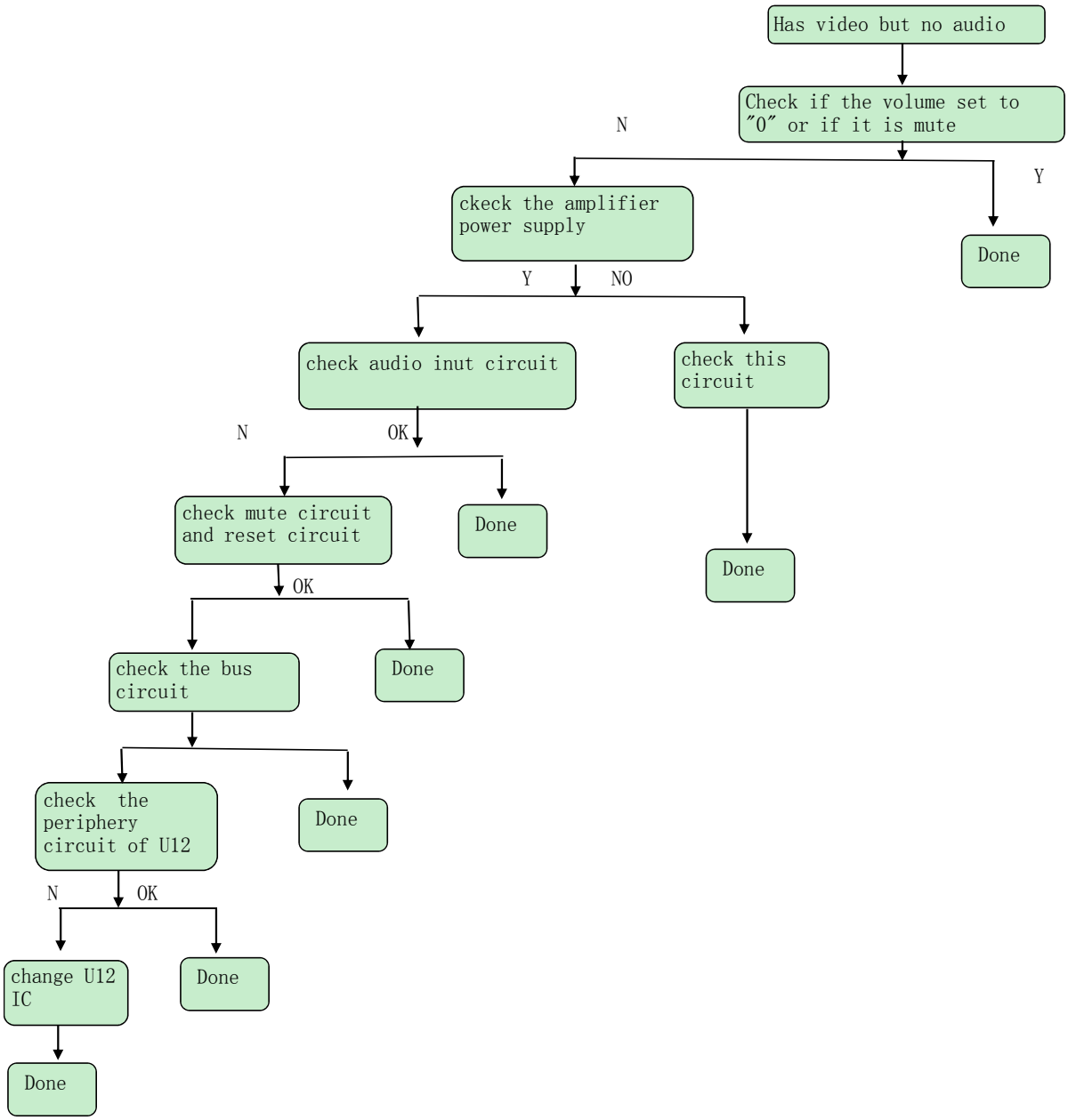
Status displaying method: On screen display

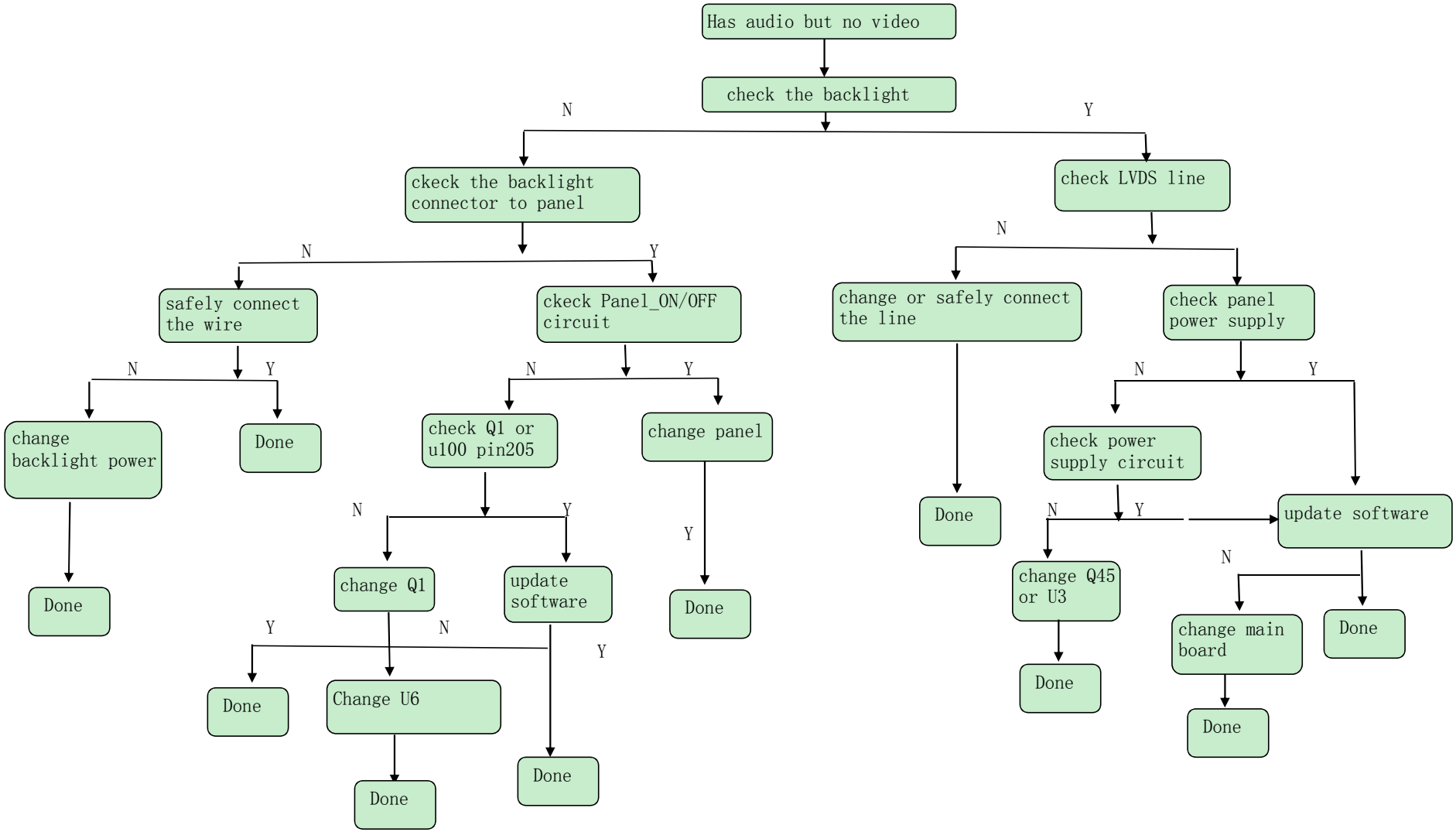
Function adjustment indicator: Menu display

Language of OSD: English, Spanish (could be different based on different model)

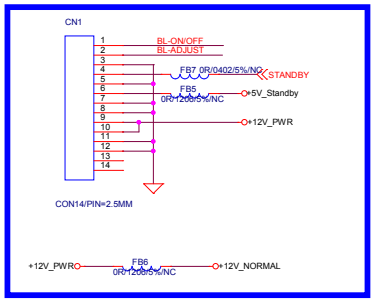
RF aerial input: 75 ohm unbalanced


NO Audio & NO Backlight
LED indicator "red" ON
N
Y
ckeck the 5V_STANDBY
Press STANDBY key led turn green
N
Y
ckeck the 5V
check ON/OFF signal from U6
N
Y
N
Y
ckeck the 12V
ckeck all DC power
change U6
upgrade software
N
Y
N
Y
change Power board
check the U1 part
change DC power IC
upgrade software
N
N
Y
Y
Done
change the U1
change U6 IC
Change U6
Y
Done
Done
Done
Done
Done
Done
Done

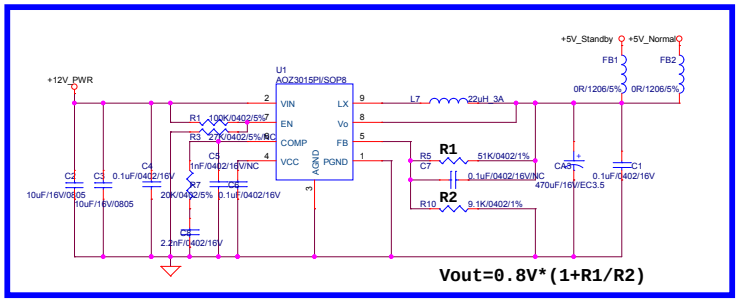

Has video but no audio
Check if the volume set to "0" or if it is mute
N
Y
ckeck the amplifier power supply
Done
Y
NO
check audio inut circuit
check this circuit
N
OK
check mute circuit and reset circuit
Done
Done
OK
check the bus circuit
Done
check the periphery circuit of U12
Done
N
OK
change U12 IC
Done
Done


Has audio but no video
check the backlight
N
Y
ckeck the backlight connector to panel
check LVDS line
N
Y
N
Y
safely connect the wire
ckeck Panel_ON/OFF circuit
change or safely connect the line
check panel power supply
N
Y
N
Y
N
Y
change backlight power
Done
check Q1 or u100 pin205
change panel
Done
check power supply circuit
update software
N
Y
N
Y
N
Y
Done
change Q45 or U3
change main board
Done
Done
change Q1
update software
Done
Done
Y
N
Y
Done
Change U6
Done
Done

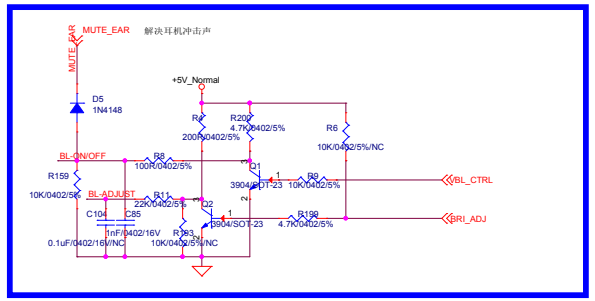
Connetor



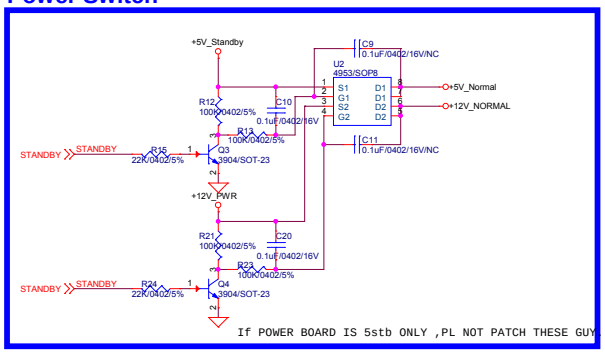
5V Standby Power(option) 3A



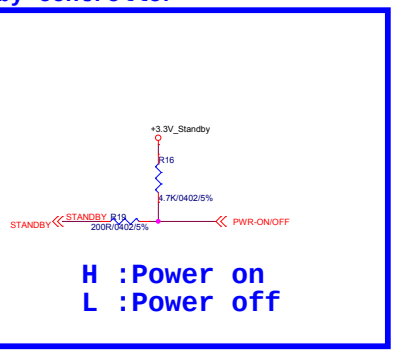
Inverter controller



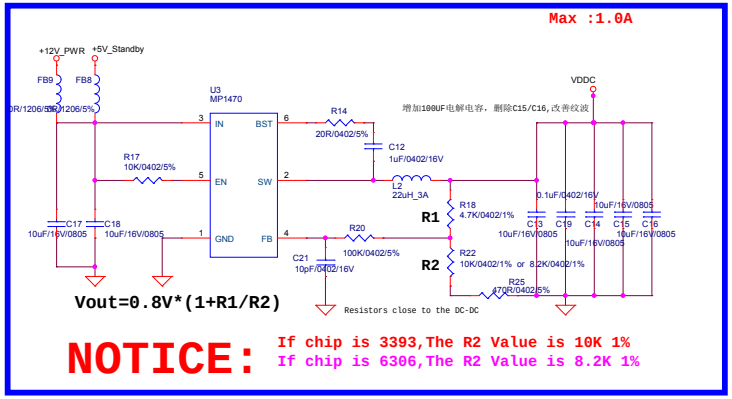
Power Switch



Standby controller

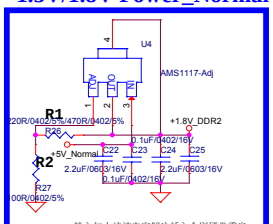


1.15V Core Power

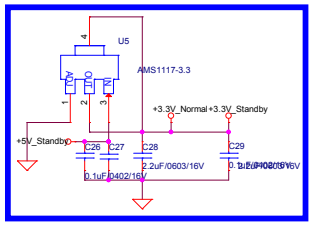


NOTICE: If chip is 3393,The R2 Value is 10K 1%
If chip is 6306,The R2 Value is 8.2K 1%

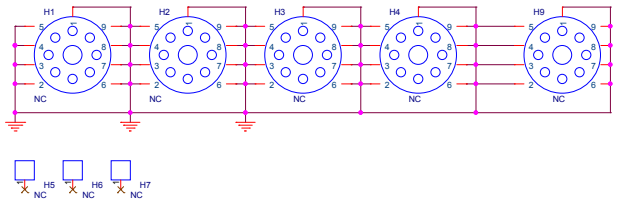
1.5V/1.8V Power_Normal



3.3V Power

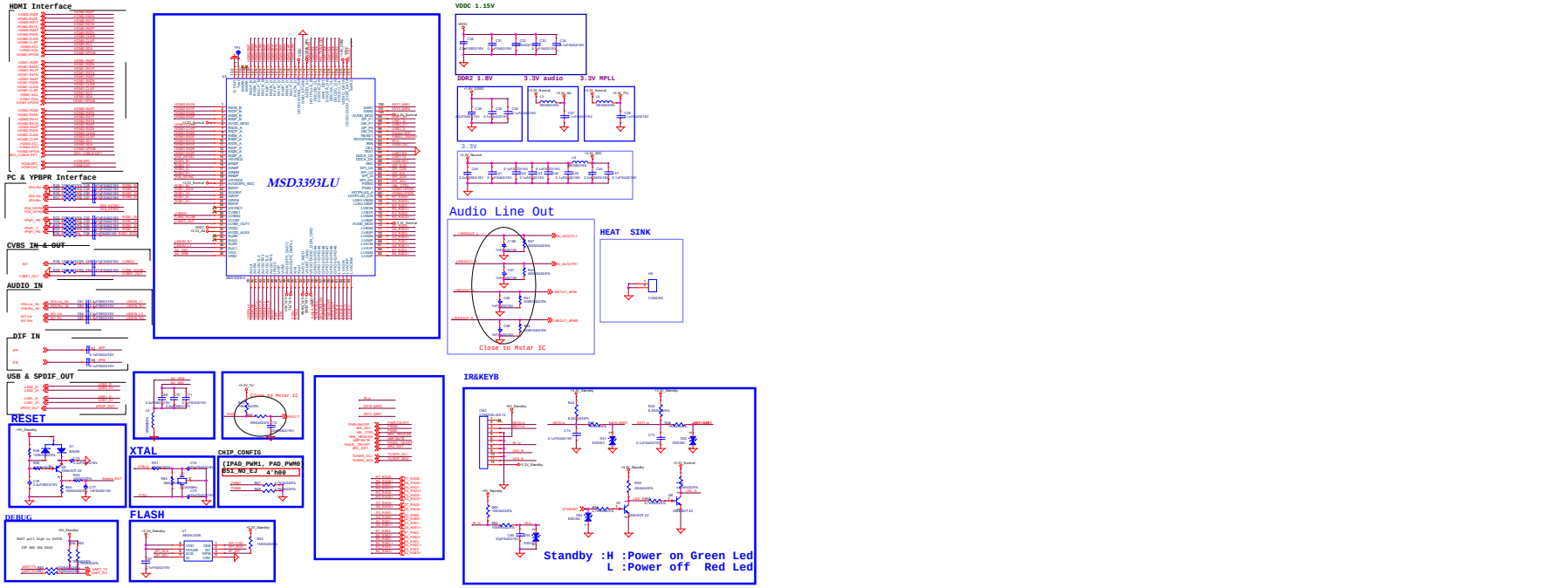


Test Point & MARK



NOTICE: If chip is 3393,The R1 Value is 220R 5% Vout=1.8V
If chip is 6306,The R1 Value is 470R 5% Vout=1.5V

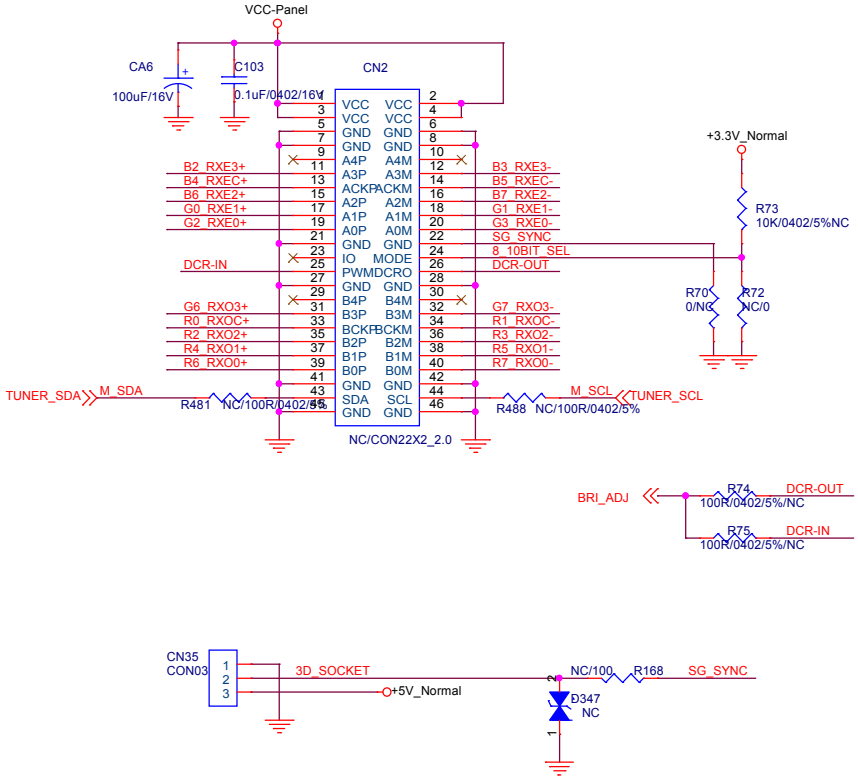
Title	MSD3393	
Size: Custom	Document Number: System power	Rev: 1.0
Date: Sunday, July 14, 2013	Sheet 1 of 9	



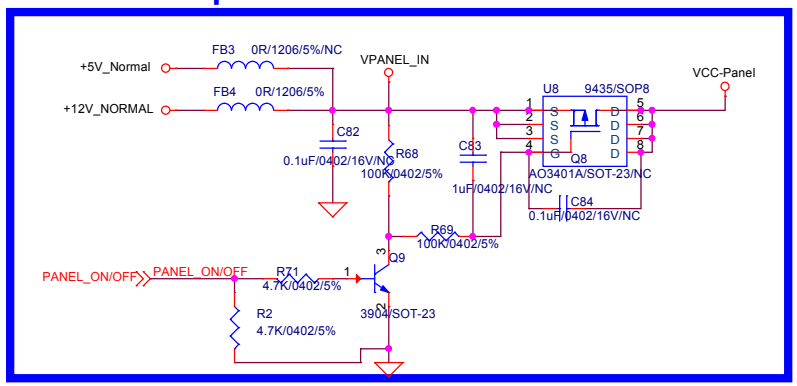
Title	MSD3393	
Size	Document Number: MAIN CHIP	Rev: 1A
Date: Saturday, June 23, 2012	Sheet 1 of 1	

LVDS CONNECTOR (1 DIP + 2 SMT OPTIONAL)

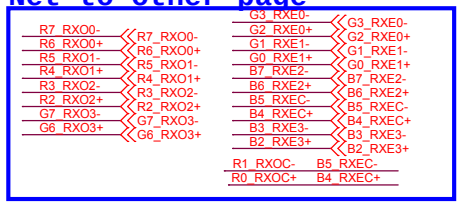
HI CONNECTOR



Power for panel

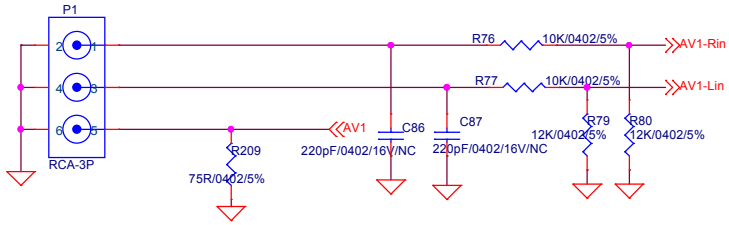


Net to other page

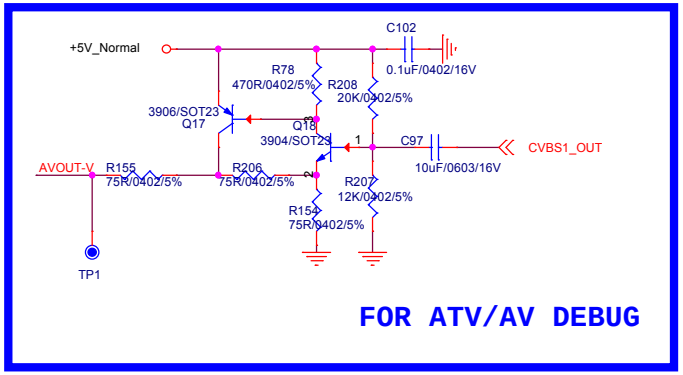


Title	MSD3393	
Size: B	Document Number: LVDS Interface	Rev: 1.0
Date: Saturday, June 08, 2013	Sheet 3 of 9	

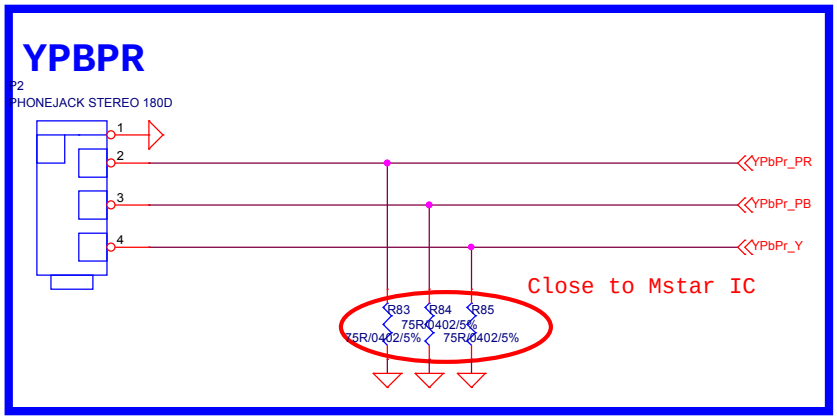
AV IN



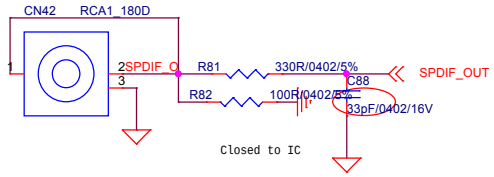
VIDEO OUT



YPBPR



SPDIF OUT



Title	MSD3393	
Size: B	Document Number: Video Interface	Rev: 1.0
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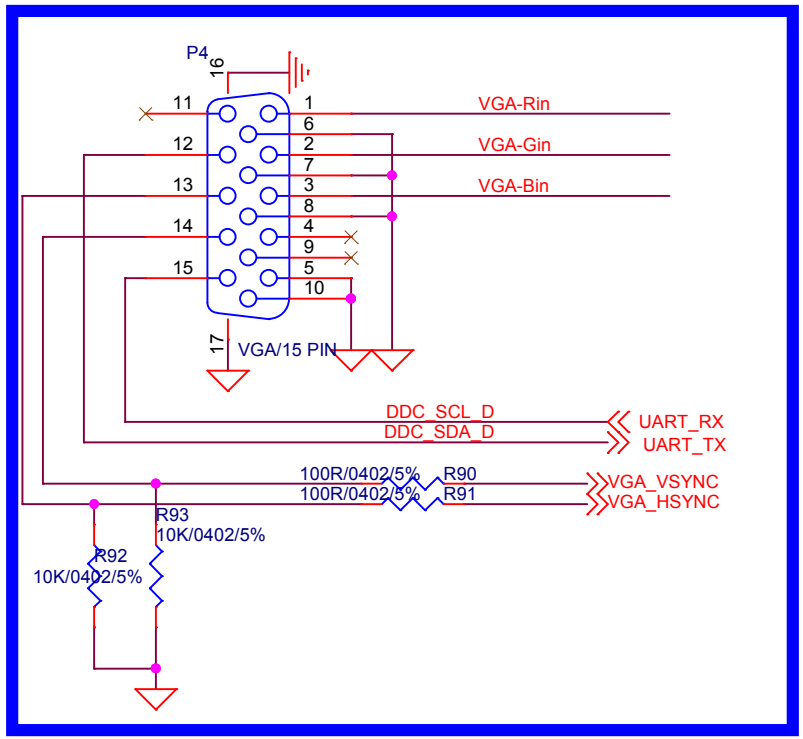
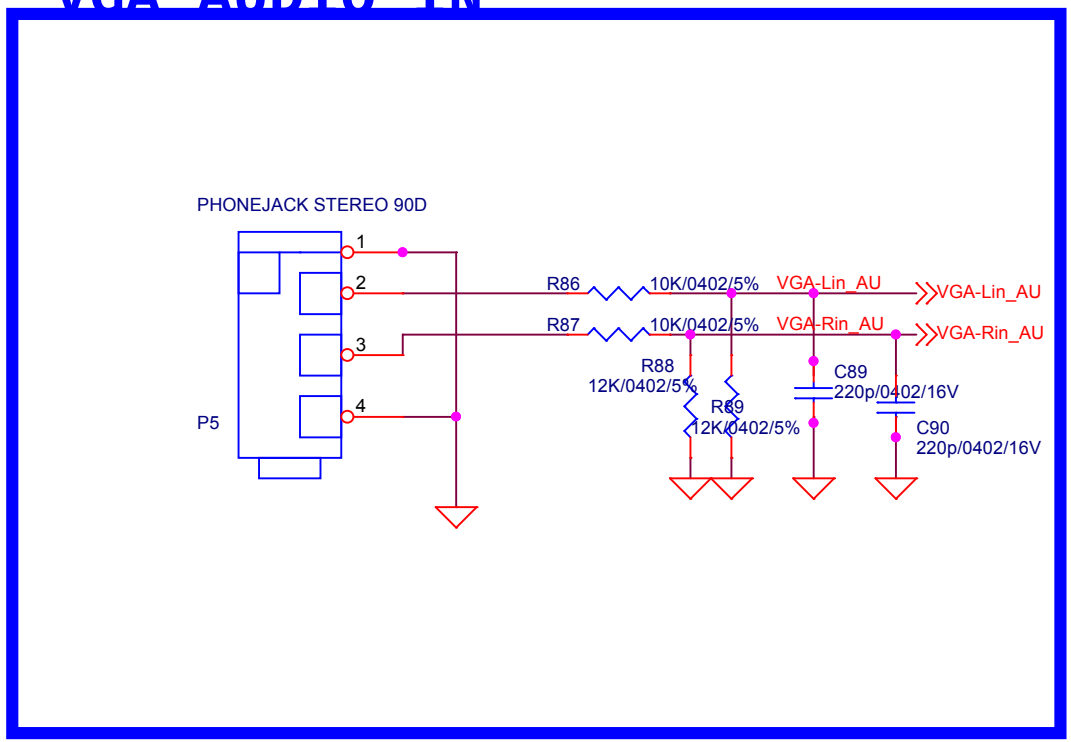
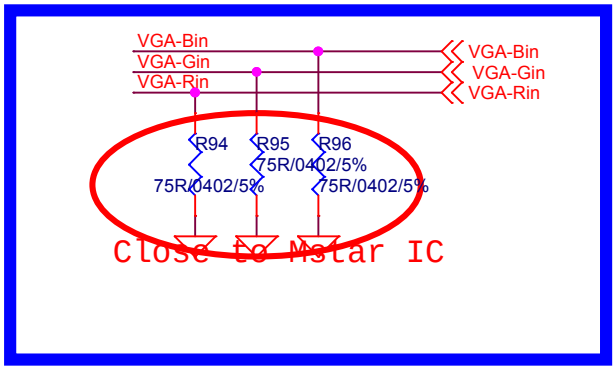
VGA



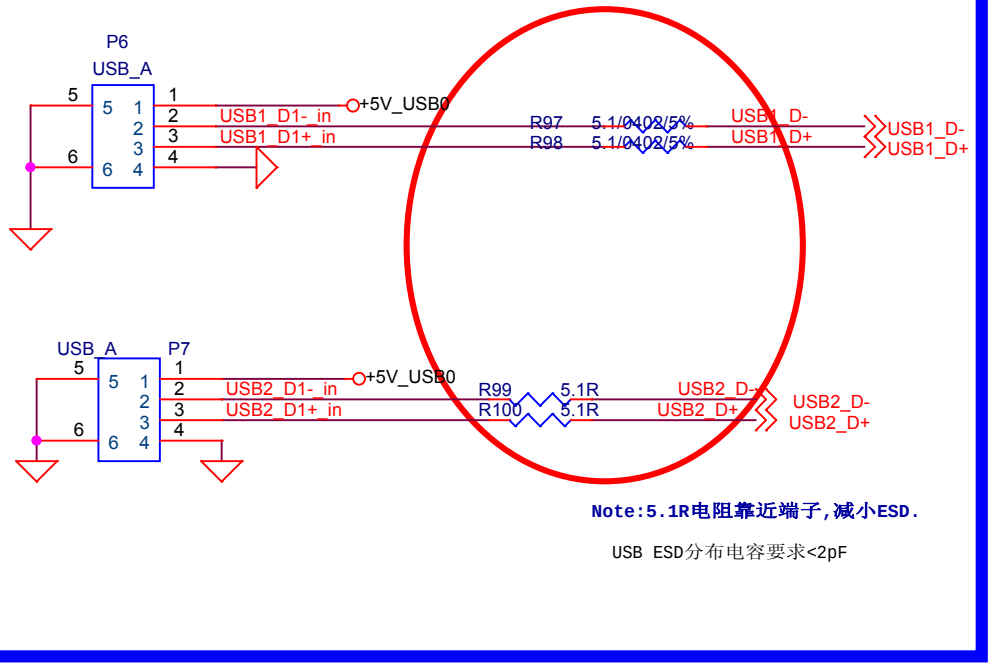
VGA_AUDIO_IN





Title	MSD3393	
Size: A	Document Number: VGA Interface	Rev: 1.0
Date: Saturday, June 08, 2013	Sheet 5 of 9	

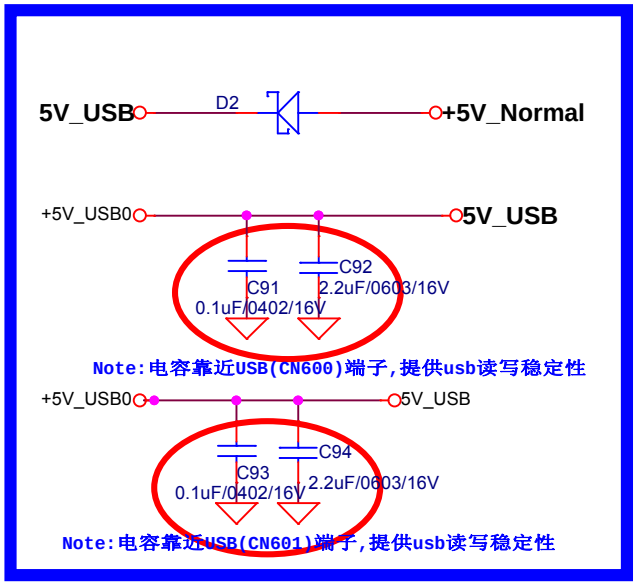
USB INTERFACE



Note:5.1R电阻靠近端子,减小ESD.

USB ESD分布电容要求<2pF

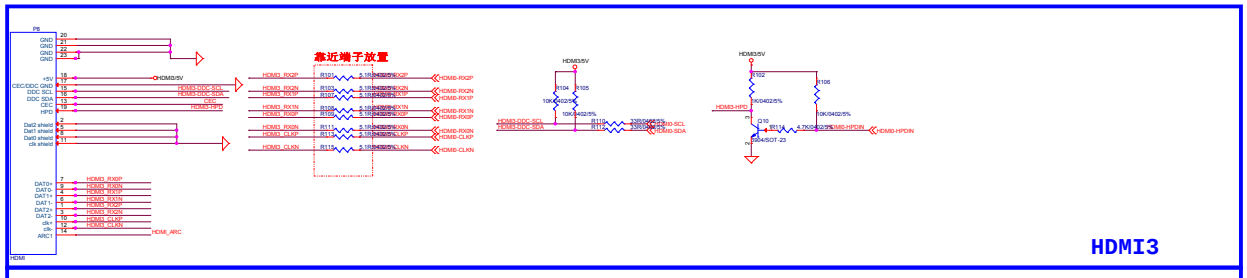
USB POWER



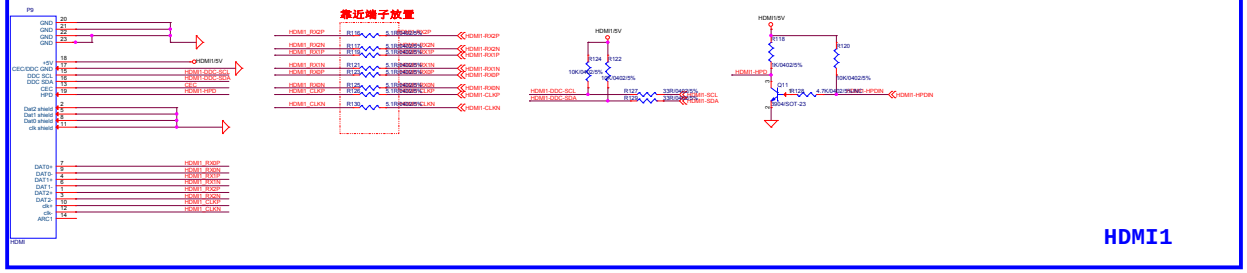
Note:电容靠近USB(CN600)端子,提供usb读写稳定性

Note:电容靠近USB(CN601)端子,提供usb读写稳定性

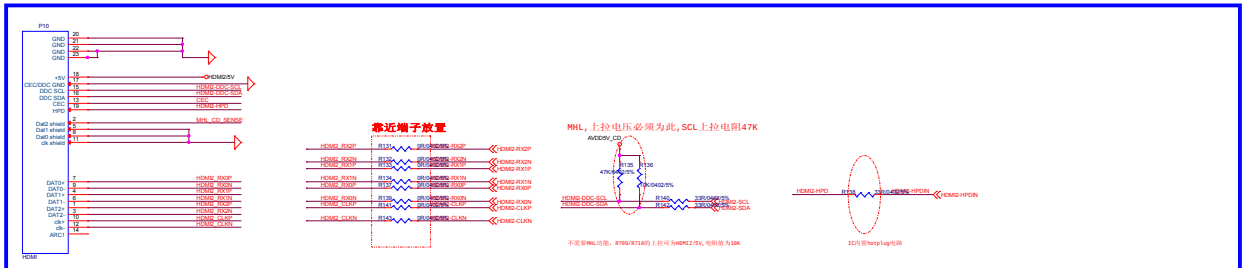
Title	MSD3393	
Size: A	Document Number: USB Interface	Rev: 1.0
Date: Saturday, June 08, 2013	Sheet 6 of 9	



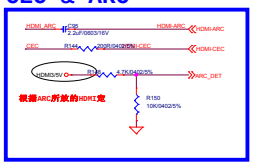
HDMI3



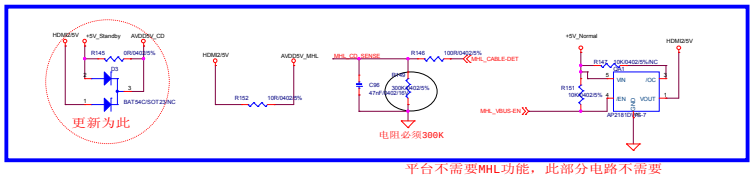
HDMI1



CEC & ARC



MHL



平台不需要MHL功能，此部分电路不需要

HDMI2 With MHL

Title	MSD3393	
Size: D	Document Number: HDMI Interface	Rev: 1.0
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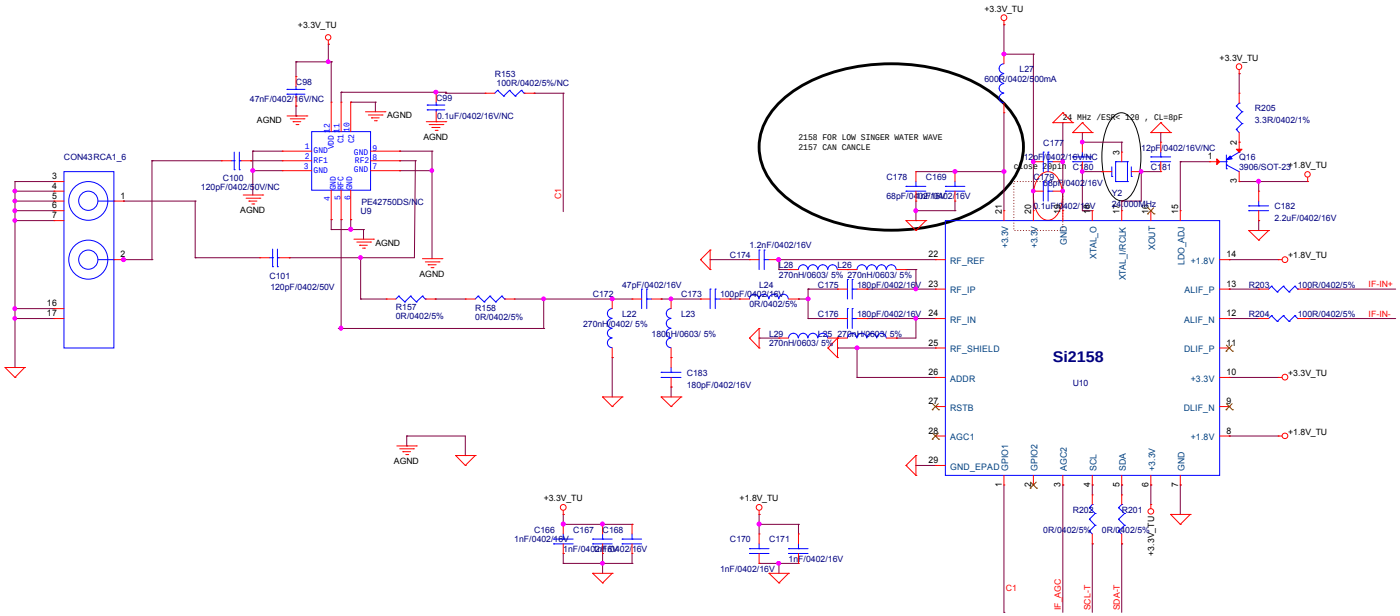
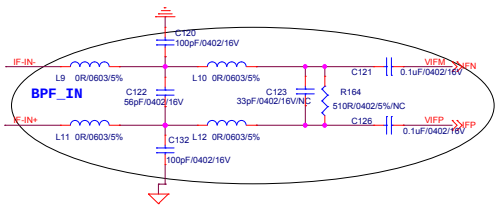
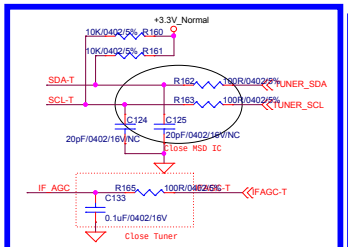
Silicon TUNER



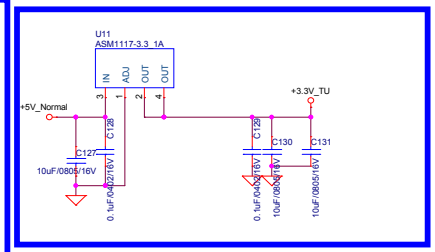
DIF IN&OUT



AGC RC Filter &I2C



TUNER POWER



Title	MSD3393	
Size: C	Document Number: Tuner	Rev: 1.0
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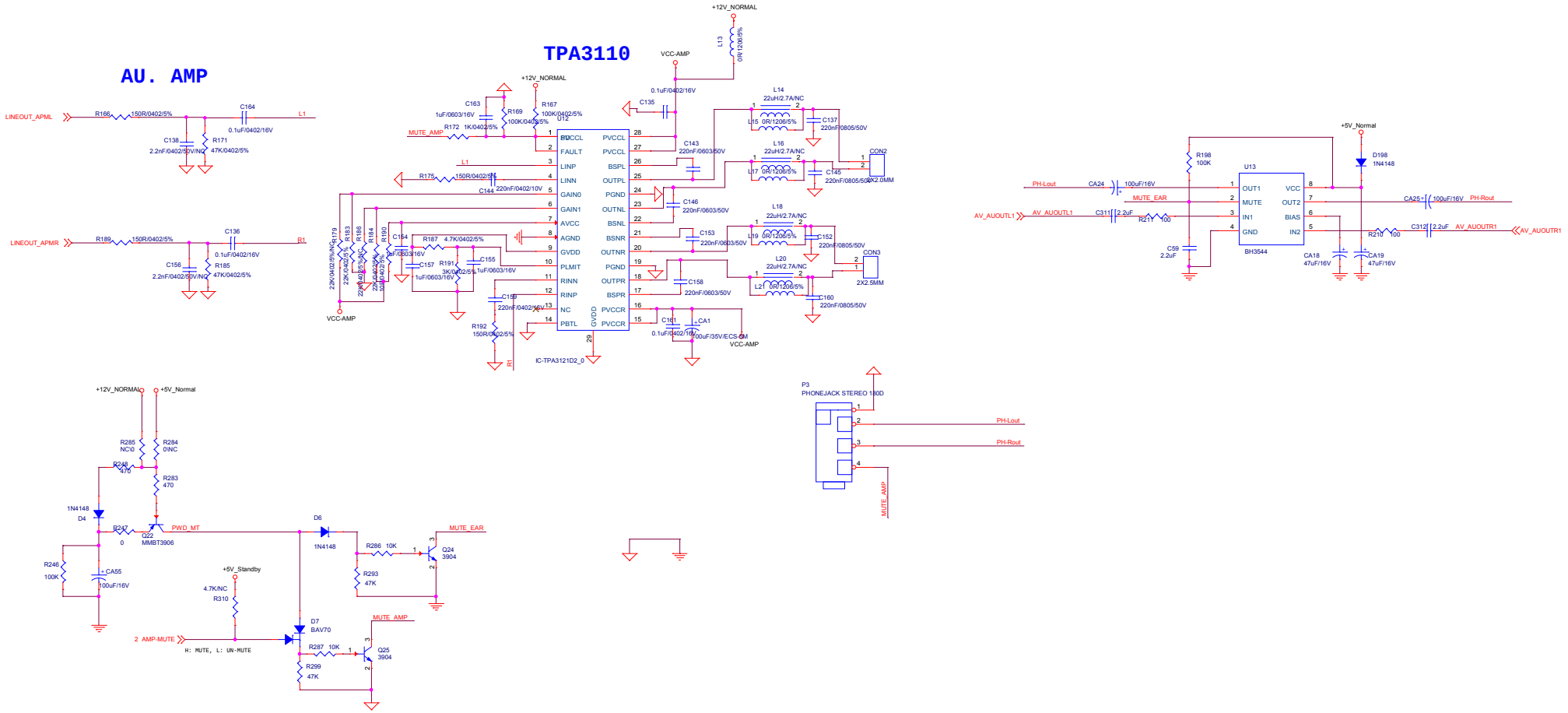
AU. AMP



Title	MSD3393		
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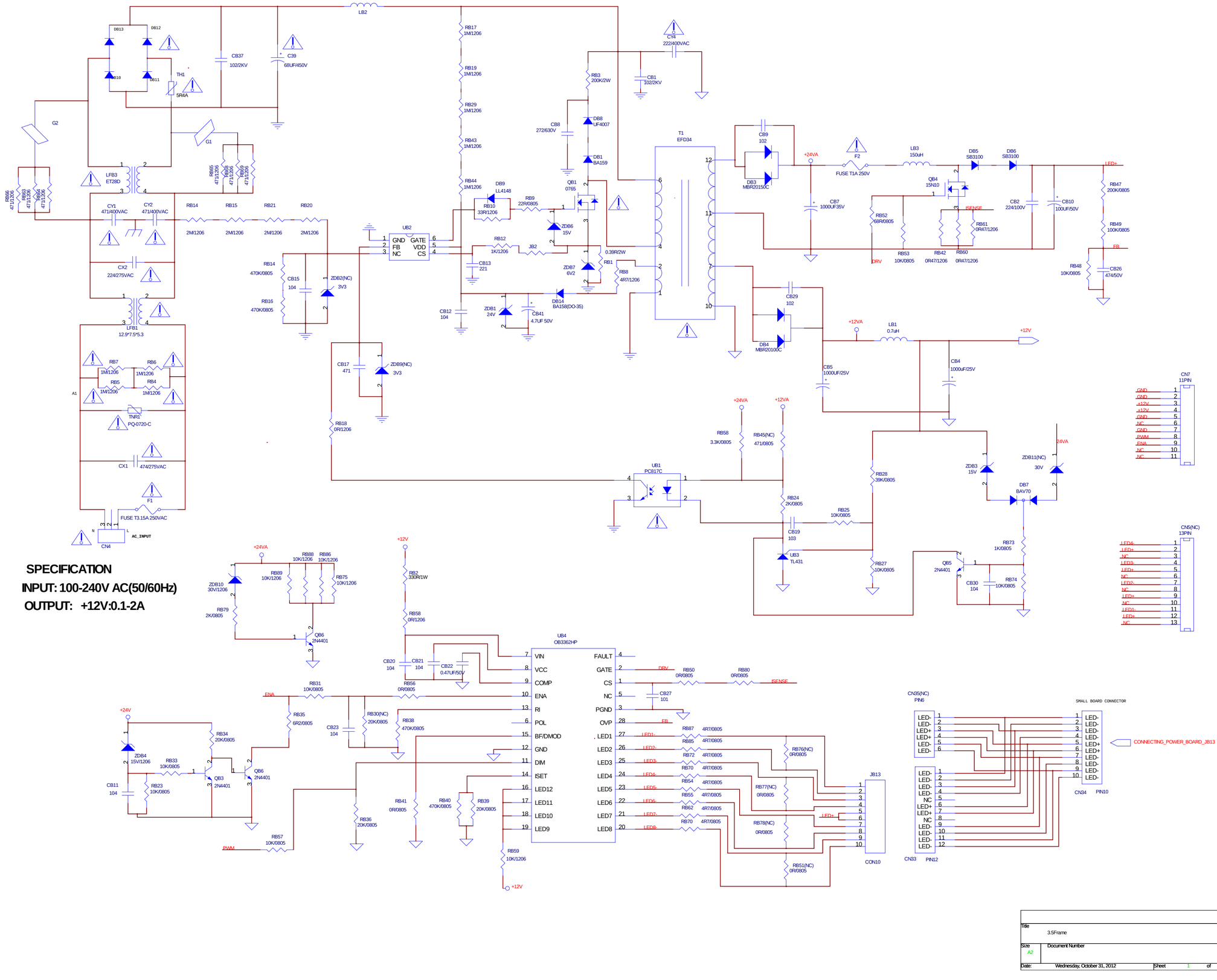
SPECIFICATION
INPUT: 100-240V AC(50/60Hz)
OUTPUT: +12V:0.1-2A
LB2
DB13
DB12
DB10
DB11
TH1
5R4A
CB37
102/2KV
C39
68UF/450V
CY3
222/400VAC
CB1
102/2KV
RB17
1M/1206
RB19
1M/1206
RB29
1M/1206
RB43
1M/1206
RB44
1M/1206
RB3
200K/2W
CB8
272/630V
DB8
UF4007
DB1
BA159
Q2
G1
LFB3
ET28D
RB66
471/1206
RB65
471/1206
RB64
471/1206
RB63
471/1206
RB62
471/1206
RB59
471/1206
CY1
471/400VAC
CY2
471/400VAC
CX2
224/275VAC
LFB1
12.9*7.5*5.3
RB14
RB15
RB21
RB20
2M/1206
2M/1206
2M/1206
2M/1206
UB2
GND
FB
NC
GATE
VDD
CS
RB14
470K/0805
RB16
470K/0805
CB15
104
ZDB2(NC)
3V3
CB17
471
ZDB9(NC)
3V3
RB18
0R/1206
RB9
22R/0805
DB9
LL4148
RB10
33R/1206
RB12
1K/1206
JB2
CB13
221
ZDB6
15V
ZDB7
6V2
RB1
0.39R/2W
RB8
4R7/1206
DB14
BA158(DO-35)
CB12
104
ZDB1
24V
CB41
4.7UF 50V
Q81
0765
T1
EFD34
CB9
102
DB3
MBR20150C
+24VA
F2
FUSE T1A 250V
CB7
1000UF35V
LB3
150uH
DB5
SB3100
DB6
SB3100
QB4
15N10
ISENSE
RB52
68R/0805
RB53
10K/0805
RB42
0R47/1206
RB61
0R47/1206
RB60
0R47/1206
CB2
224/100V
CB10
100UF/50V
LED+
RB47
200K/0805
RB49
100K/0805
FB
RB48
10K/0805
CB26
474/50V
DRV
CB29
102
DB4
MBR20100C
+12VA
LB1
0.7uH
+12V
CB5
1000UF/25V
CB4
1000uF/25V
RB7
1M/1206
RB6
1M/1206
RB5
1M/1206
RB4
1M/1206
TNR1
PQ-0720-C
CX1
474/275VAC
F1
FUSE T3.15A 250VAC
CN4
AC_INPUT
A1
+24VA
+12VA
RB58
3.3K/0805
RB45(NC)
471/0805
UB1
PC817C
RB24
2K/0805
CB19
103
UB3
TL431
RB25
10K/0805
RB28
39K/0805
RB27
10K/0805
ZDB3
15V
ZDB11(NC)
30V
24VA
DB7
BAV70
RB73
1K/0805
CB30
104
RB74
10K/0805
Q85
2N4401
CN7
11PIN
GND 1
GND 2
+12V 3
+12V 4
GND 5
NC 6
GND 7
PWM 8
ENA 9
NC 10
NC 11
CN5(NC)
13PIN
LED4- 1
LED+ 2
NC 3
LED3- 4
LED3+ 5
NC 6
LED2- 7
NC 8
LED+ 9
NC 10
LED1- 11
LED1+ 12
NC 13
+24VA
+12V
RB88
10K/1206
RB86
10K/1206
RB89
10K/1206
RB75
10K/1206
ZDB10
30V/1206
RB79
2K/0805
QB6
2N4401
RB2
330R/1W
RB58
0R/1206
UB4
OB3362HP
VIN
VCC
COMP
ENA
RI
POL
BF/DMOD
GND
DIM
ISET
LED12
LED11
LED10
LED9
FAULT
GATE
CS
NC
PGND
OVP
LED1
LED2
LED3
LED4
LED5
LED6
LED7
LED8
CB20
104
CB21
104
CB22
0.47UF/50V
RB56
0R/0805
RB31
10K/0805
ENA
RB35
6R2/0805
CB23
104
RB30(NC)
20K/0805
RB38
470K/0805
RB41
0R/0805
RB40
470K/0805
RB39
20K/0805
RB36
20K/0805
RB57
10K/0805
PWM
RB59
10K/1206
+12V
DRV
RB50
0R/0805
RB80
0R/0805
ISENSE
CB27
101
FB
LED1-
LED2-
LED3-
LED4-
LED5-
LED6-
LED7-
LED8-
RB87
4R7/0805
RB85
4R7/0805
RB72
4R7/0805
RB70
4R7/0805
RB54
4R7/0805
RB55
4R7/0805
RB62
4R7/0805
RB70
4R7/0805
RB76(NC)
0R/0805
RB77(NC)
0R/0805
RB78(NC)
0R/0805
RB51(NC)
0R/0805
JB13
CON10
LED+
+24V
ZDB4
15V/1206
RB34
20K/0805
RB33
10K/0805
RB23
10K/0805
CB11
104
QB3
2N4401
QB6
2N4401
CN35(NC)
PIN6
LED- 1
LED- 2
LED+ 3
LED+ 4
LED- 5
LED- 6
LED- 1
LED- 2
LED- 3
LED- 4
NC 5
LED+ 6
LED+ 7
NC 8
LED- 9
LED- 10
LED- 11
LED- 12
CN33
PIN12
SMALL BOARD CONNECTOR
1 LED-
2 LED-
3 LED-
4 LED-
5 LED+
6 LED+
7 LED-
8 LED-
9 LED-
10 LED-
CONNECTING_POWER_BOARD_JB13
CN34
PIN10
Title
3.5Frame
Size
A2
Document Number
Rev
?
Date:
Wednesday, October 31, 2012
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